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# THE SPHERE

Vol. CLXIV No. 2139 WITH WHICH IS INCORPORATED THE GRAPHIC JANUARY 18 1941

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# IT HAPPENED EVERY NIGHT

**1.** *I am secretary to the Managing Director of a big firm that evacuated to the country when the Blitz began. "Wonderful! Now for some peace and quiet — no more sirens," I thought.*

**2.** Peace and quiet! *The first week, the old banshee howled thirty-eight times, mostly at night. Up we'd have to get and trapes off to the shelter and sit around till the All-Clear.*

**3.** *After a bit we stayed in bed unless we heard something noisy happening. Strangely enough, that's when I began to feel terrible. I must have had one ear open for the siren even in my sleep.*

**4.** *My nerves went to pieces. So did my work. One morning, I took a long memorandum in shorthand and* couldn't *read it back. I'll never forget it. I actually cried in the office!*

**5.** *It was then that one of the older girls told me about the three sleep groups. "You'll never keep going unless you get 1st Group Sleep," she said, and she advised me to take Horlicks.*

**6.** *She seemed so sensible, I took her advice. That night and ever since I've had a lovely cup of hot Horlicks. What a difference in the way I feel when I waken up — and all day long!*

**7.** *All that horrid nerviness and depression has slipped away now. In fact, I feel so much better than I have for years, I believe it's 1st Group Sleep I've been missing all the time.*

## THERE ARE THREE SLEEP GROUPS

SCIENTISTS divide us into 1st, 2nd and 3rd Group Sleepers. The last group are wakeful, can't get to sleep. Group No. 2 may sleep 8 or 9 hours, yet wake still tired. Group 1 sleepers get the deep, refreshing sleep we must have to keep going.

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Volume CLXIV No. 2139

The SPHERE, London, January 18, 1941

THE SPHERE

With which is incorporated "THE GRAPHIC"

The Empire's Illustrated Weekly

London, January 18, 1941

## THE MEN WHO FOUGHT AT BARDIA: THE CREW OF A BRITISH TANK BEFORE THE ASSAULT

This picture, one of a series of official photographs just arrived in this country from the Western Desert, was taken on Christmas morning in front of Bardia. The men standing before their tank are eating a Christmas pudding "made of biscuits, prunes, marmalade and rum." They have been fighting in the desert since the war began, and actually took part in the final assaults on Bardia. Contrary to popular conception, the weather in the Western Desert at this time of the year can be very bitter—heavy rain and intense cold alternating with sandstorms; hence the general unkempt appearance of this hard-bitten crew! The tanks have played a very decisive part in the Libyan operations; their weight and numbers, together with their clever tactical handling, appeared to confound the Italians completely. At the moment our main forces are concentrating in front of Tobruk, the fall of which is expected shortly. (*Further Bardia pictures are reproduced elsewhere in this issue*)

Postage—Inland, 2d.; Canada and Newfoundland, 1½d.; Elsewhere Abroad, 2d.

# A WAR NEWSLETTER—No. 72

32-34, ST. BRIDE STREET, E.C.4

## B.-P. AND SETON THOMPSON.

—The name of B.-P. needs no publicity. His fame rests on the most solid foundations of great achievement and ceaseless enthusiasm for a noble idea and ideal—with all respect to his ingenious defence of Mafeking, his outstanding career began when he had left the Army; began at fifty years of age. The Boy Scout movement is for ever linked with his name and brought him the highest honour—and Honours. The virtues of the movement no one has ever seriously questioned or sought to minimise. It is certain that before long the claims of another to a share in the glory of B.-P.'s great idea will be put forward again, and B.-P.'s merit will not be reduced, if that claim is found to have substance. Those who have declared that the movement spread from England to America are putting the cart before the horse—such is the claim which will be made by admirers of Mr. Seton Thompson. He it was who invented the constitution of the *Woodcraft Indians* in America. It was going well in America when he came to England in 1904 and mentioned the plan to Lord Roberts. Lord Roberts sent him to B.-P. B.-P. was much impressed, and a substantial portion of the first Boy Scout literature was Mr. Seton Thompson's, amalgamated with B.-P.'s own drafts and publications between 1900 and 1903. The movement in its essentials was well away in the States before it was adopted, and adapted, by the genius and energy of B.-P. in England. That I believe to be the truth.

## NEWS OUT OF GERMANY.

—I do not believe much of the news which is released *for the public*, brought out of Germany by those who have recently lived there and have written impressions for neutral journals. Experience has shown how large a proportion of the more encouraging (to us) details is wishful thinking. But one fact, quite often stressed by these observers, I do believe, for I have never found it, or heard it, seriously contradicted. It is the observation that the German people are largely *apathetic*, as a result of years of strain. Like General Wavell against the Italians, so circumstance against the Germans has never suffered them to rally from the final crash of 1918. Since then they have faced, non-stop, starvation, bankruptcy, revolutions, followed by redoubled hard work, constant rationing, inflation and at least six years of strain equal to the present war strain. Evidence is abundant that, while they remain in the main patient, disciplined, obedient and faithful, they are tired out in mind and body. Victory can no more stimulate them. They have learned to fear victory, which always seems to call for more sacrifice and to share out no halfpence. They have been gorged with promises, pomps and parades of military strength, and yet—neither on the faces of the troops who drive by to glory nor on those of the spectators who watch them pass, is there ever a smile, nor on their lips a cheer. The townsfolk are tired of troops, and the troops are tired of campaigns and exiles; yes, and I believe, of cruelty and destruction. They know that they are execrated by those who fear or fight them. Tired, disillusioned, constantly puzzled, they have for a space "finished joy and moan." Their leader is great, and vaguely omnipotent still, but tired hearts are ceasing to hope for his triumphant coming in the power and glory that means peace and sufficiency of food and warmth, and (dear God) the blessings of home life, love of children, simplicity and slippers and beer mugs, and all those golden blessings which the *dominant race* must proudly forgo for its proud destiny. Yes, I believe that.

**BRITAIN'S NEW AMBASSADOR TO THE UNITED STATES: LORD HALIFAX AT WORK IN HIS STUDY, WITH LADY HALIFAX:** This new picture of our former Foreign Secretary was taken at the moment of his transference to the vacant Embassy in Washington. After having borne "the burden and heat" since the outbreak of war, Lord Halifax becomes the first British Ambassador to retain, at the same time, his Cabinet status. To follow Lord Lothian as Britain's representative to the United States requires a man of the greatest political and moral stature; and Lord Halifax is one of the very few men in Britain who possess the qualifications needed for this onerous post

## A LESSON FROM LIBYA.

—Two brothers, a bishop and a judge (so the ancient story runs), were arguing—very improperly—which of them was the bigger man. The bishop argued: "You can only say 'You be hanged,' but I can say 'You be damned.'" "Yes," replied his brother of the Bench, "but when I say 'You be hanged,' you *are* hanged"—and those were the last words in that argument. The old tale may be applied to Libya. Mussolini is the bishop and Wavell the judge. The Duce was undoubtedly hanged at Bardia. We must not, of course, build too much on it, but it is not too much to say that he and Fascism and Italy have had a shattering jolt and that a sharp lesson has been given to dictators generally. Henceforth, I believe, we at least shall suffer our flesh to creep even less at the threats of doom, the rattlings and the catcalls, of the dictators and their jackals. The battle of words has definitely passed its zenith. The battle of deeds is being joined, and there will be hard knocks in plenty still to come. In the past we have had the heaviest output of threats and blows from Hitler, nicely mixed. From the junior partner and his ineffable vitriol-slingers we have suffered only in our ear-drums, and replied only with our fists. Now, much of the wind is driven out of the windbag, and what remains will for a time be used to bolster up justifications and excuses for home consumption in Italy. We may enjoy a brief holiday from Gayda and Co., while the dastards in words and the laggards in war are licking their wounds. At least, I hope so. I dare to hope that even Goebbels is showing signs of consciousness that, against the British, words are vain weapons, threats empty shells, and that Mr. Churchill's methods of restrained optimism and frank admission of difficulties ahead is the wisest form of statesmen's oratory and propaganda after all. For boasts are boomerangs, and only hits knock over the Aunt Sallies. If these hopes be fulfilled, we shall gain one great boon in this war, now working up to its zenith of ferocity. We shall cut out some of the lamentable vulgarity of a mud-slinging match, and precious blood and treasure will be sacrificed with greater dignity at least.

## THE L.S.D. OF HAPPINESS.

—There is grandness in our Judicature now as always. In the very height of our struggle for survival, six Lords of Appeal under the Lord Chancellor found time to argue at immense length the problem which often arises in civil courts of fairly assessing in terms of money damages for loss of "expectation of life." In the end, by their judgment, they put a new interpretation on the relevant clause of the *Law Reform Act of* 1934. The provisions and reasoning under Lord Campbell's Act remained unaffected. Lord Simon's judgment in *Gambling v. Benham* lays down that the probable ration of happiness and not the actuarially reached expectation of years of life should be the basis for assessment. With recourse to the poets and to the moral philosophers, Lord Simon built up his arguments, and I am bound to say I think he left the problem as insoluble for the High Court judges as it was before. Under the actuarial methods of assessing expectation of years an infant was often given a shorter rope than a stripling who has surmounted many dangerous snags of babyhood, but once past babyhood, a claimant's damages could formerly be worked out mathematically with some confidence. But when you are told to make your figures up on a basis of happiness and not of years, guesswork begins to play a larger part. For Lord Simon made the trite point that money does not buy happiness, and that a claimant born with a silver spoon in his mouth is not on that account to be credited with a higher ration of probable happiness than the child of a labourer. Quoting "life's fitful fever," Lord Simon took a very gloomy view of the average ration of life-happiness. He thought its knock-down price was highly valued at £200, the price of a second-hand "flivver." Was it for this return that my father spent £4000 on my education, gentle reader? Do I, at fifty-five, feel that I have had about £160 worth of happiness and may possibly receive £40 more? No, Sir. Although a quarter of my active life has been passed in the nightmares of war, I would not sell my happiness, past and hoped for, for £200 or £20,000. Life is real, life is earnest, life is a fitful fever, but the lucid intervals (even in war) are underpriced at £200, or £1200 or £20,000. In a word (as Lord Simon admitted) it is an academic discussion. You can't put a price on the Elgin Marbles or Vermeer's *View of Delft*, or any other work of art, of which the greatest is the extraction of happiness from a human life. That is why I say the case of *Gambling v. Benham* is a proof of the grandeur of our national institutions and national character. Economy is our watchword to-day, however, and we may live to see Lord Simon's judgment set aside, and another £100 or so sprung in the auction of human happiness.

## ARE WE DOWNHEARTED?

—Are we downhearted in setting forth the relentless logic of the City shelter problem? Are we defeatist? Are we weakening? There are always in war one's neighbours ready to detect a sign of weakness. But resolution is one thing and *cant* another. We have battered Germany brick for brick. We give back all we get, and more. We are their masters in the beastly business, and well they know it. Yet each side is losing more than it is gaining. . . . Not only in irreparable material treasures. We have shown by unmistakable proofs that the war can be waged and won with the weapons which the conventions of civilisation have at least condoned. We have shown that we can thrash the Axis on land, storm their entrenched positions, sweep away their defences before the irresistible force of co-ordinated attack. We are in high heart and full of confidence in victory, we who never at the worst envisaged defeat. We are ready and willing to meet and overcome the menace of the submarine and the bomber at sea; and fighting and day bombing on military targets are accepted as legitimate methods of warfare. It is night bombing that, above all, underlines the insanity of war, that spells defeat to all combatants. It is night-bombing alone that makes Stalin laugh in his sleeve and grow fat on his neutrality. It is night bombing that spells doom to Hitler, but also spells for Britain a decade of bitter harvests to come.

## OWNING A HOUSE (1941).

—I own a house. If I bought an umbrella for 30s. it would be mine to enjoy free until it wore out or you stole it. But if I buy a house or a motor-car, how much less favourable are the conditions of ownership! I bought a house with about fifty acres of heath and woodland for £4,500—I thought it a bargain. I would consider favourably an offer to rent it furnished for a term of years at £200 per annum. It lies 1½ miles from the nearest village and six miles from the nearest country town. For the privilege of simply owning my house and the furniture in it, I must pay more than the full rent I would accept for it. This is how it is done: Rates (I derive no benefit from any R.D.C. service), £60; Schedule "A," £70; private all-in insurance, £15; war damage (compulsory) insurance, £22; war damage, furniture and car (voluntary), £21; bare annual repair to fabric and painting outside, £20: total, £208. Isn't that a singular state of affairs? I lost an income of £210 a year when I realised capital to buy my house. I did not foresee that my total loss of income from mere ownership would be twice as much. Yes, the figures are a curious sidelight on present-day economics and social history.

THE OLD STAGER

# The BATTLE for BARDIA

## First Pictures from the Actual Theatre of War in the WESTERN DESERT

*—A Series of Official Photographs Just Released for Publication*

**CHRISTMAS DAY, 1940, IN FRONT OF BARDIA:** A SCENE IN THE BITTER COLD OF DAWN, AS A PRIEST CELEBRATES MASS IN THE DESERT. THESE MEN WERE ACTUALLY ENGAGED IN THE OPERATIONS IN FRONT OF THE ITALIAN STRONGHOLD

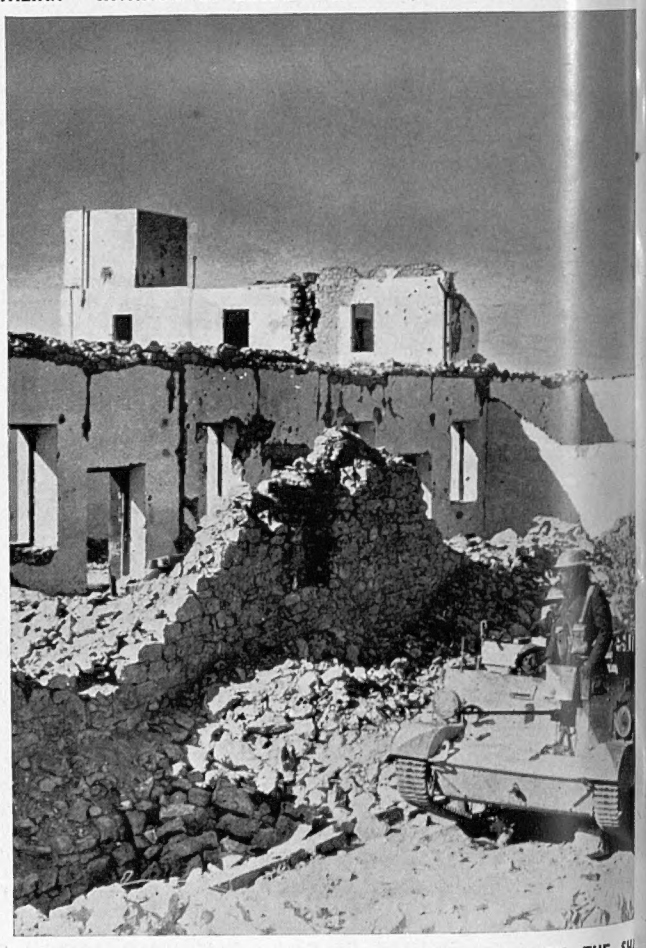
**PRAYER BEFORE GOING INTO ACTION ON CHRISTMAS MORNING:** UNSHAVEN AND WARMLY CLAD SOLDIERS KNEELING AT MASS

On this and on following pages we publish the first of the official photographs actually to reach London of the operations in the Bardia area, where General Wavell's "Army of the Nile" has so triumphantly carried out its attacks against the Italian army in the Western Desert. To the Australians go the main honours: but the tanks, too, have vindicated themselves in no uncertain fashion; co-operating with the Empire and British forces, too, our Allies—Free Frenchmen and Poles, in particular—have also been prominent. Conditions have not been easy—sandstorms, heavy rains, and at times intense cold, have hampered our gallant troops. Despite all obstacles Sollum, Bardia, Capuzzo and other lesser objectives have fallen in wonderfully short time—and soon Tobruk may be added to the list

**PREPARING THE WAY FOR THE ASSAULT ON BARDIA: BRITISH SAPPERS AT SOLLUM REPAIRING A ROAD BLOWN UP BY THE ITALIANS IN THEIR RETREAT—IRONICALLY ENOUGH, WAS LAID DOWN BY THE ENEMY FOR THE ITALIAN "INVASION OF EGYPT"—NOT FOR THE BRITISH "INVASION**

**THE ITALIAN FORTRESS AT CAPUZZO AFTER THE BRITISH ADVANCE INTO LIBYA**

Fort Capuzzo is an important frontier post to the south-west of Sollum: quite early in the campaign in the Western Desert, just after Italy's entry into the war, it received a heavy battering from British forces in that area. Later, however, when we had to abandon the whole district, Capuzzo was once again occupied by the Italians. But now it is back in British hands, following on the battle of Sidi Barrani and the subsequent occupation of Sollum and Bardia. The buildings

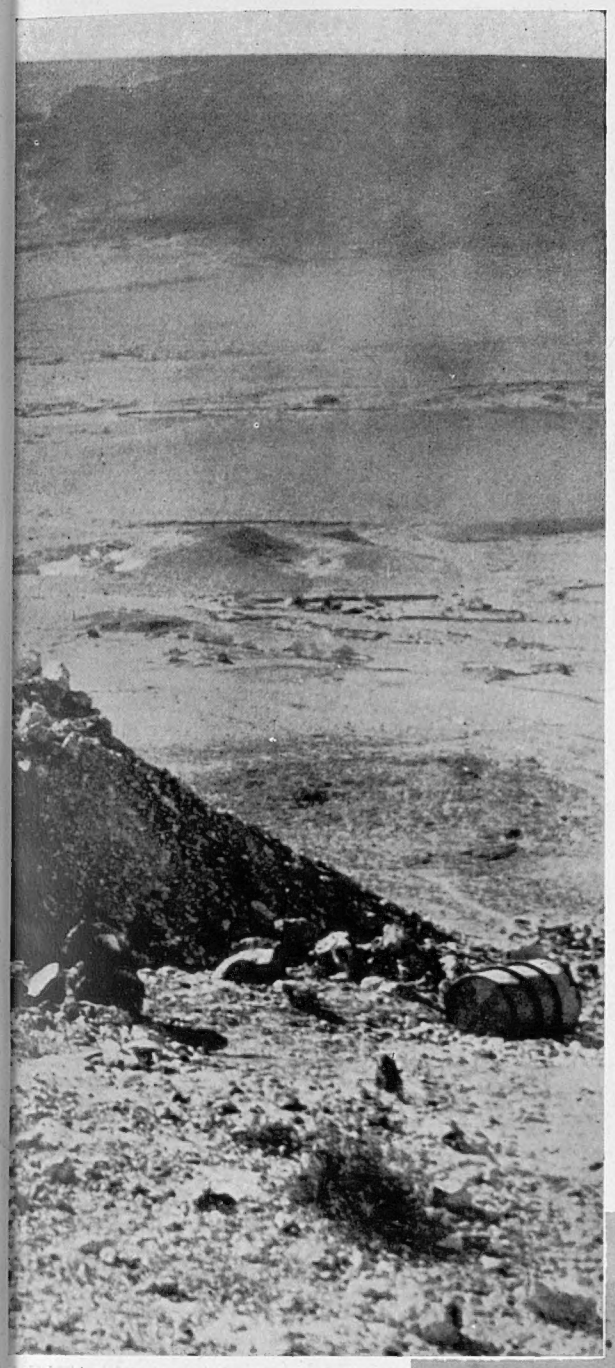


**BRITISH BREN-GUN CARRIERS PASSING THROUGH THE SH**

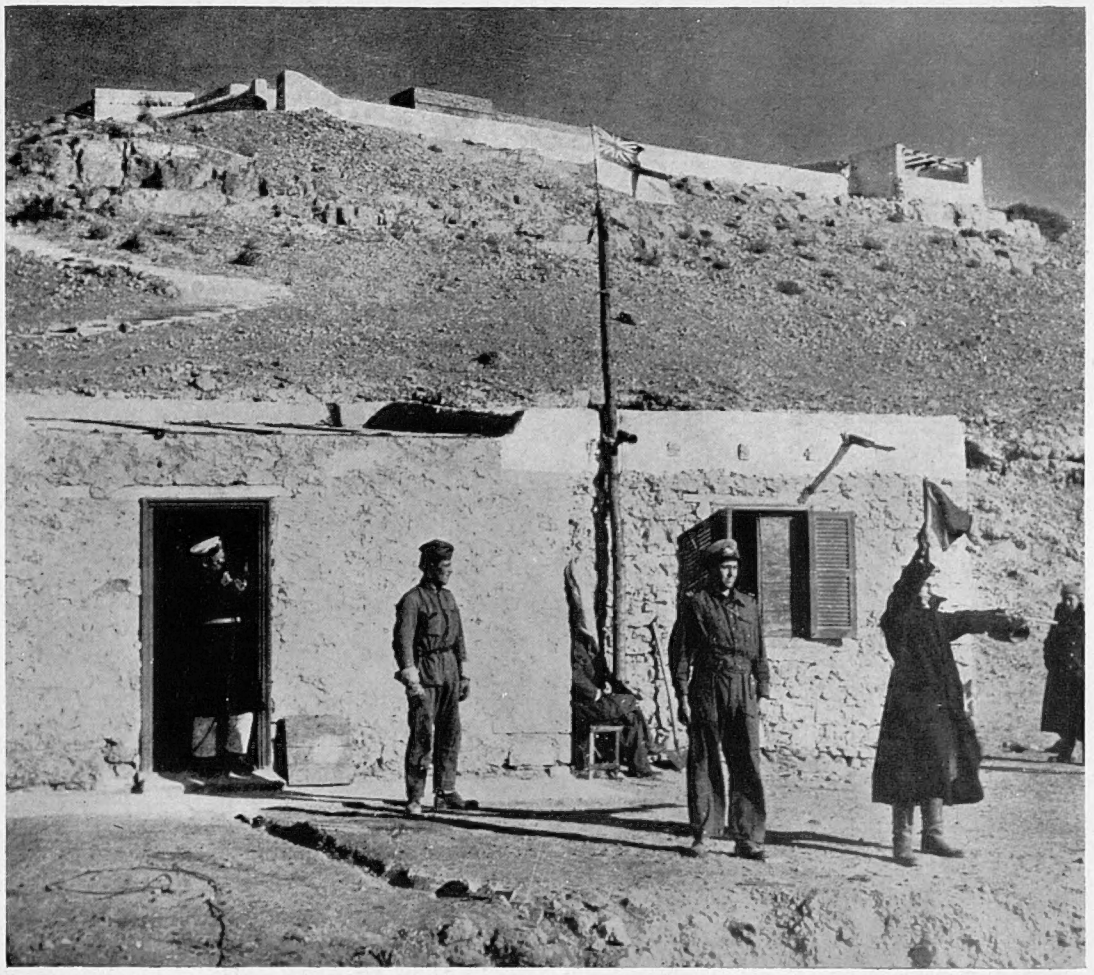
and fortifications are quite co severe was the bombardment th of rubble—as, indeed, the pictur

# PREPARING for the CAPTURE of BARDIA

*Scenes at Sollum and Fort Capuzzo, which Fell to British Forces After the Capture of Sidi Barrani, and During the Advance on Bardia and Tobruk*



**ALONG THE COAST. THIS ROAD, OF LIBYA" !**



**AFTER THE FALL OF SOLLUM: AN ITALIAN STATION NOW USED BY BRITISH SAILORS AS A SIGNAL BASE:** It was partly because of the ignorance of what "Sea Power" means that the Italians have suffered such crushing blows in Libya! Throughout the operations, the Royal Navy bombarded the enemy's coastal positions without cessation

**TERED FORTRESS AT CAPUZZO**

siderable—or, rather, were considerable: so this fortress that it is now almost a heap on the right well shows

**THIS WAS ONCE A STRONG-POINT IN THE DESERT: IT IS NOW AN UNIMPORTANT RUIN!**

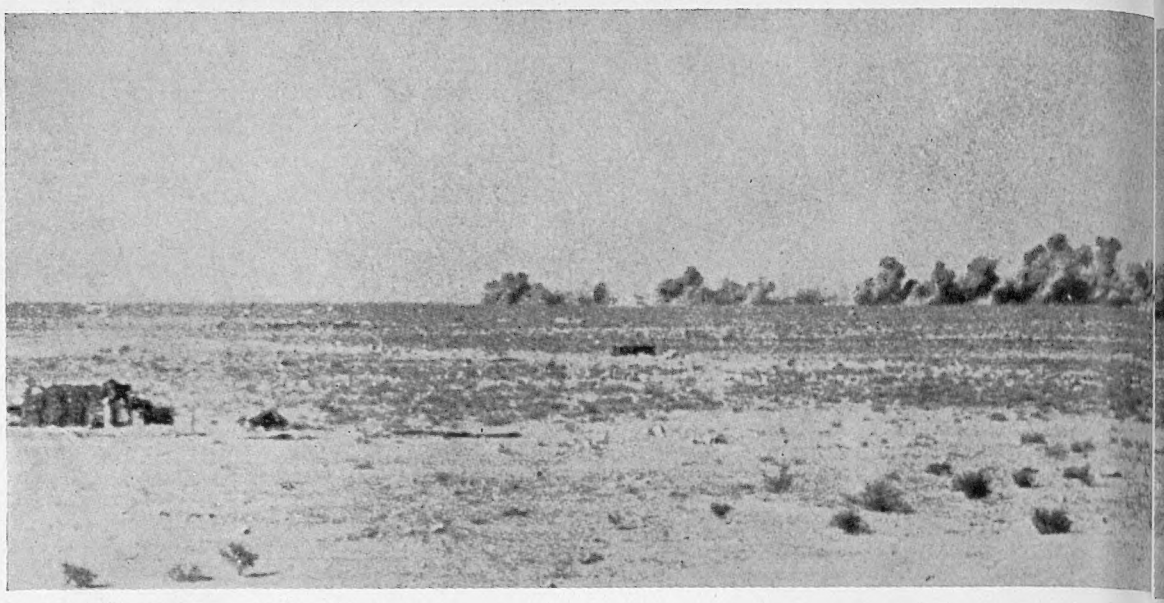
The Italians had here constructed one of their neat little strongholds—complete with stone walls and sandbags, and fortified with field-guns and machine-guns. And it was all very snug and pretty until the big Advance —when it was just flattened out by the Australians and the tanks and the artillery. Many of these little nests had been built behind the barbed-wire barricade along the frontier between Egypt and Libya

# The ASSAULT on BARDIA

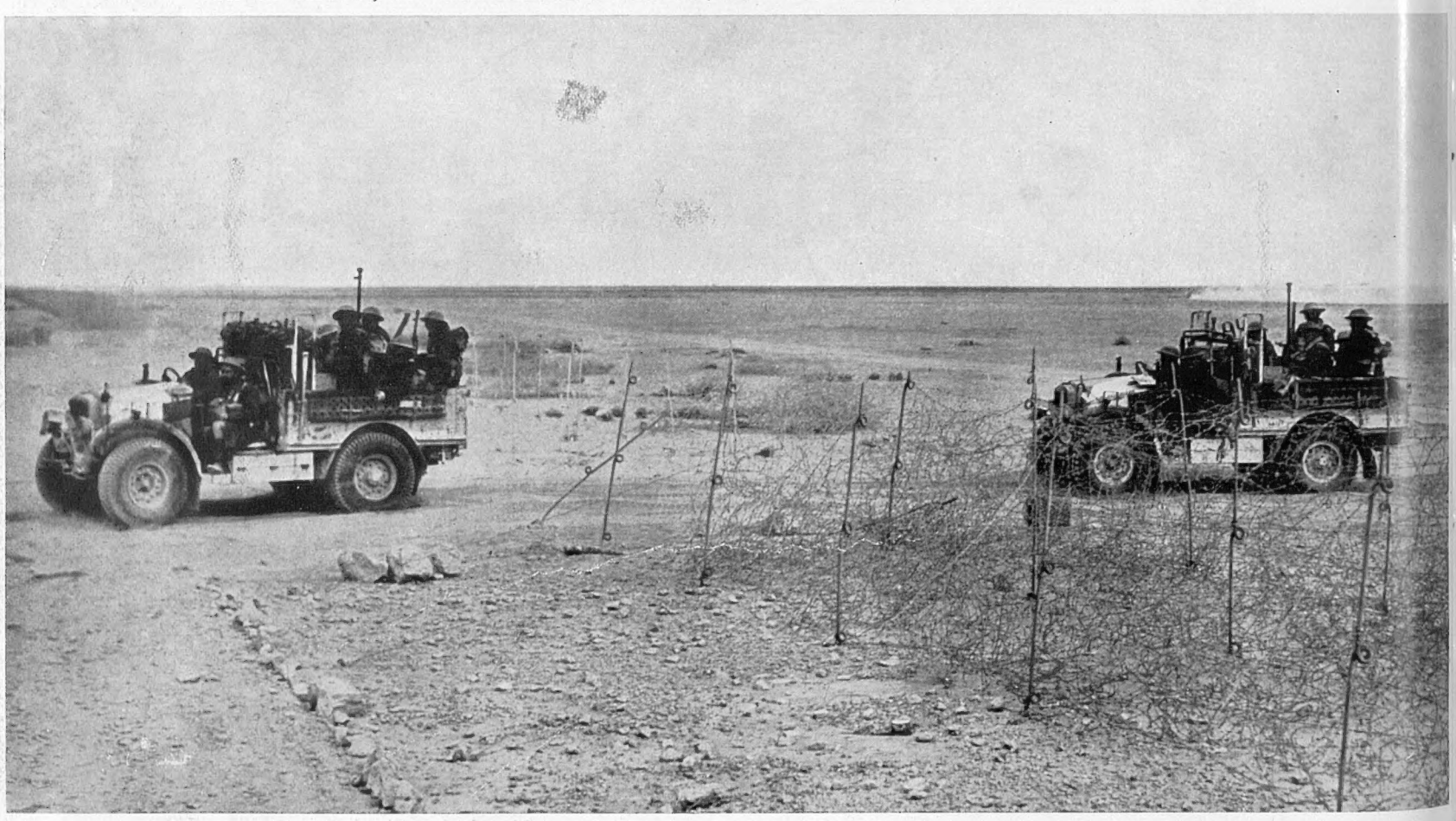
*Scenes During the Operations which Culminated in the Fall of this Italian Stronghold on Sunday, January 5*

The Libyan stronghold of Bardia fell to the British attackers at 1.30 p.m. on Sunday, January 5. It is now known that nearly 45,000 prisoners were taken at Bardia; in addition, we captured or destroyed 368 medium guns and field guns; 26 heavy anti-aircraft guns; 68 light guns; 13 medium tanks; 117 light tanks; and 708 transport vehicles.

Without pause after this great victory, General Wavell at once pushed on to Tobruk, Italy's great supply base, which is now surrounded and expected to fall very shortly

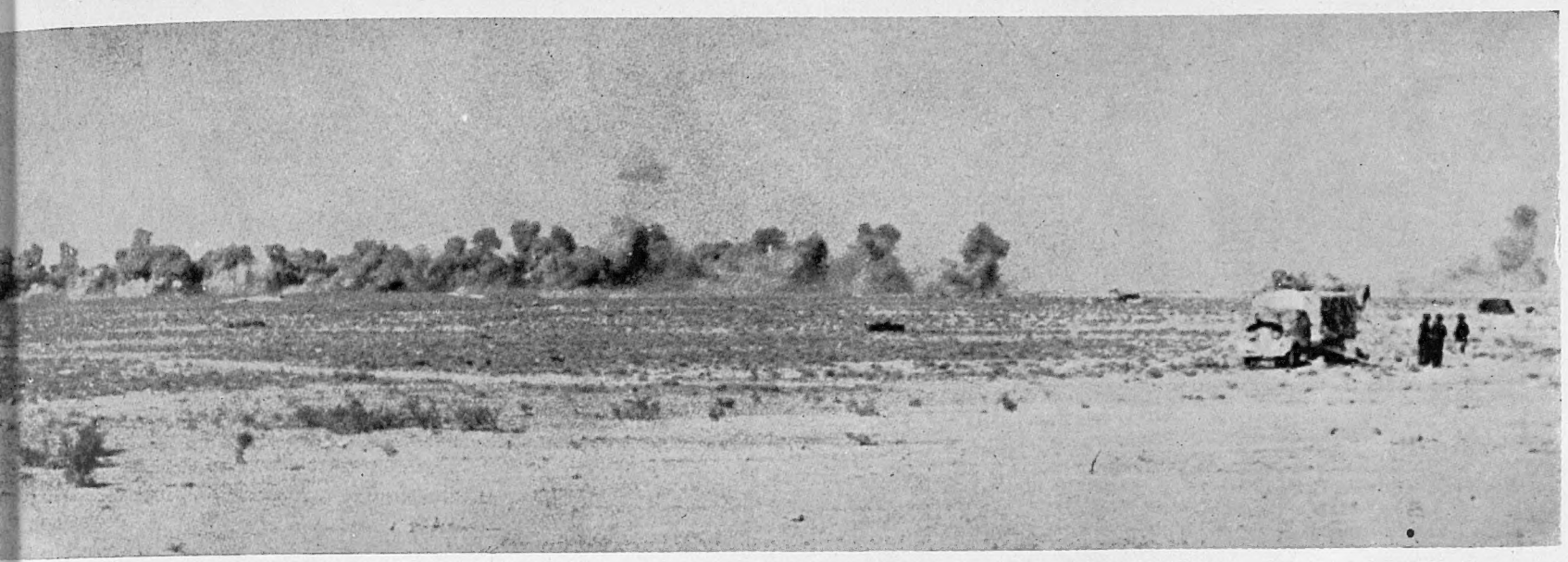


THE SCENE ON THE PLAINS OUTSIDE THE DOOMED TOWN: BRITISH GUNS IN ACTION AGAINST BARDIA. THIS SCENE IS REMINISCENT, ALMOST, OF THE SOUTH AFRICAN WAR—NO TRENCHES, NO EARTHWORKS ROUND THE GUNS, WIDE OPEN PLAINS, AND ALMOST UNHURRIED LEISURELINESS!



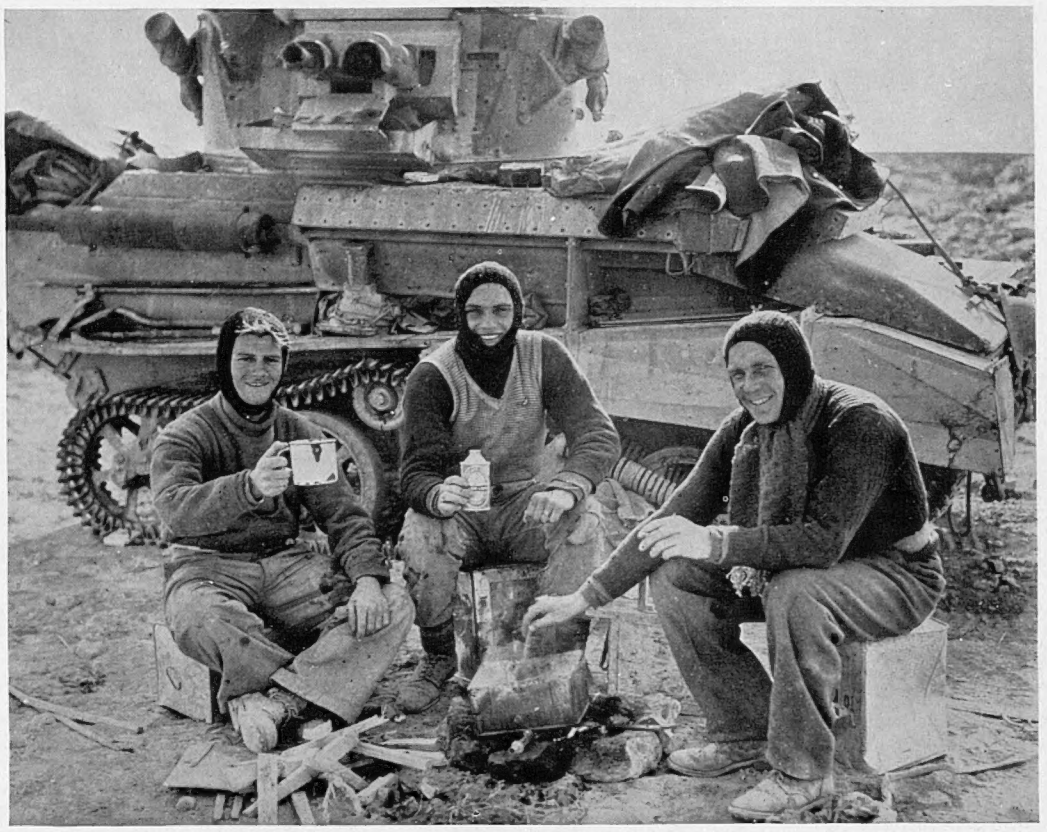
**PASSING THROUGH GAPS IN THE ENEMY'S WIRE DEFENCES: A PATROL OF FREE FRENCH FORCES OPERATING IN THE BARDIA AREA**

Both French and Polish troops have been co-operating with the British and Empire forces in the Western Desert, and very good work has been done by these Allies. In the air, too, their pilots have aided the task of sweeping the skies clear of the enemy's aircraft. It is interesting to note—from the above, and from other pictures from the Sollum and Bardia areas—the great reliance placed by the Italians on barbed-wire defences. These were found everywhere by our troops: needless to say, they caused but momentary delay to the advance of our mechanised forces



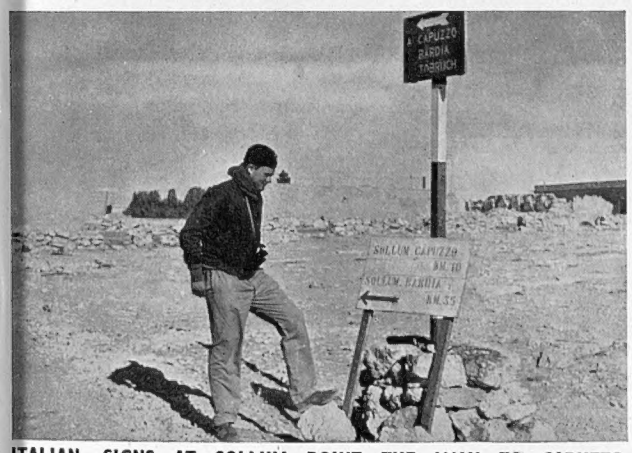
THE FRONT LINE AT BARDIA UNDER FIRE: A HEAVY BOMBARDMENT BY BRITISH ARTILLERY—SHOWING HOW ACCURATELY THE SHELLS ARE BURSTING IN AN ALMOST STRAIGHT LINE. LATER THE R.A.F., TOO, JOINED IN THE ATTACK

FREE FRENCH TROOPS, WITH A CAPTURED ITALIAN GUN BEING OPERATED AGAINST ENEMY AIRCRAFT IN THE WESTERN DESERT



THE CREW OF A BRITISH TANK AT AN IMPROMPTU MEAL IN THE DESERT: THE WARM CLOTHING OF THESE CHEERY SOULS INDICATES THAT NOT ALL DESERTS ARE HOT!

A MACHINE-GUN POSITION HELD BY FREE FRENCH TROOPS, WHO CO-OPERATED IN THE FINAL ONSLAUGHT AT BARDIA




**ITALIAN SIGNS AT SOLLUM POINT THE WAY TO CAPUZZO, BARDIA AND TOBRUK:** The towns first-named are already in British hands and Tobruk is surrounded by British forces, and all communications with the outside world have been severed

**BRITISH INFANTRY ENTRENCHED IN THE FRONT LINE BEFORE BELEAGUERED BARDIA:** For a short period, until the whole weight of the British forces had been transferred from Sidi Barrani on to Bardia, the enemy was contained by the infantry, who ringed the Italian stronghold with a line of roughly-constructed trenches. Again it will be noted how warmly the troops are clad as a protection against the chill air of the desert in the rainy season

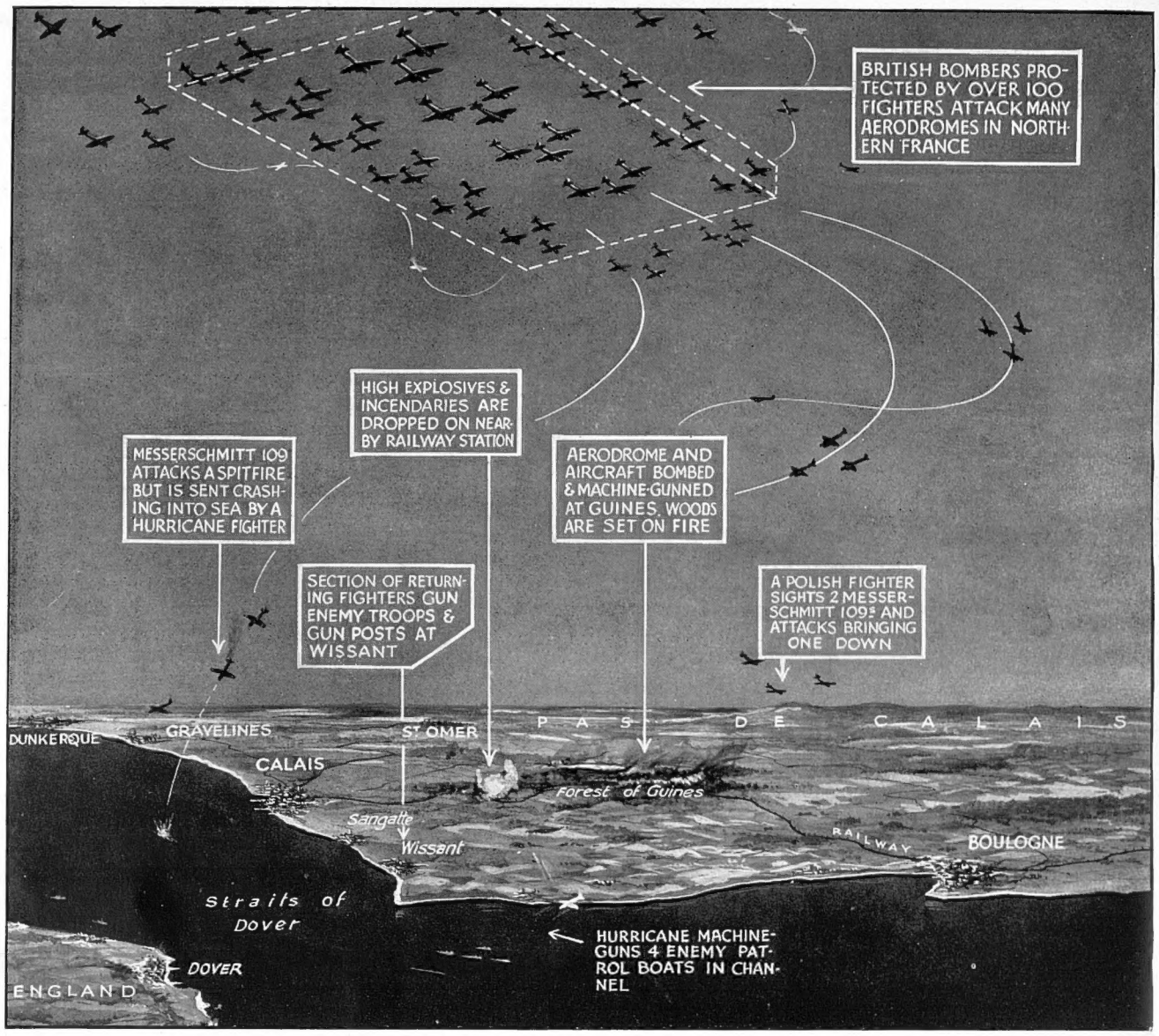
# The R.A.F.'S FIRST MASS RAID in DAYLIGHT

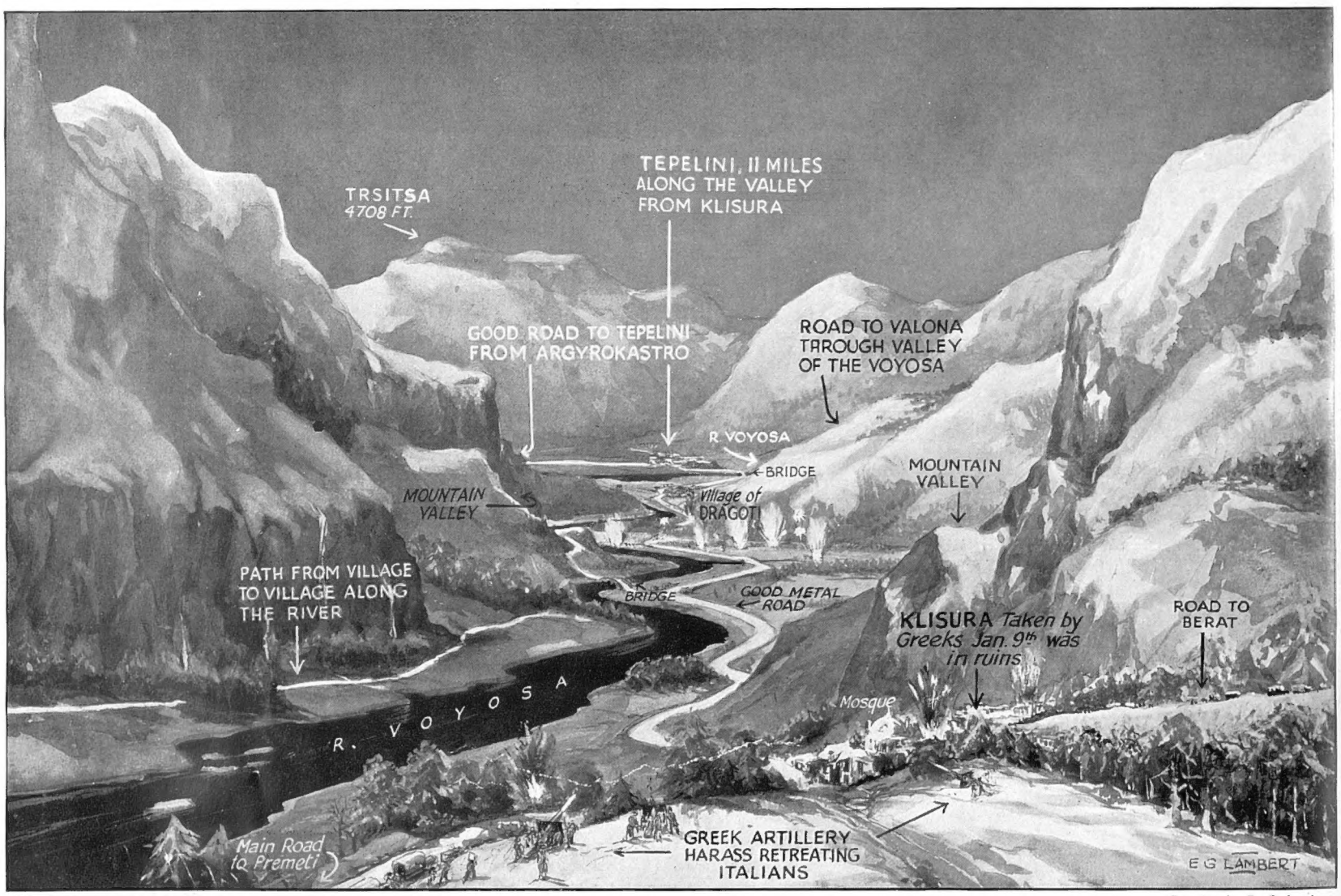
Steadily during the winter months the R.A.F. has been gaining in strength: the newest demonstration of its might is the inauguration of mass raids *in daylight*.

On Friday, January 10, the Air Ministry announced that aerodromes and troop concentrations had been bombed by strong combined forces of fighters and bombers. The latter were protected by over 100 fighter planes; and whilst the waves of raiders were flying over France no organised attempt was made to intercept them. On the return flight, in fact, three enemy fighters were shot down—*and all our aircraft got back safely.*

This is a reversal with a vengeance! It will be remembered that all during last autumn these were the tactics employed by the Germans, and these were the tactics which were going to bring about the downfall of Britain! Faced with the intense opposition of the R.A.F., these German tactics failed signally and were finally abandoned altogether—giving place to small, unimportant forays and the adoption of night bombing (which the Germans had always derided). Now the R.A.F. is taking up their own weapon and turning it against the enemy.

The drawing reproduced here shows the tactics employed by the R.A.F. and what they achieved in this first big raid. Others have already followed up the first, and it is to be expected that during the coming weeks further similar raids will be organised.




*Drawing by E. G. Lambert*

## THE CAMPAIGN IN GREECE—THE CAPTURE OF KLISURA AND THE THREAT TO TEPELINI

The weather in Albania has been appalling; and Italy, alive to the possibilities of disaster, has attempted to hold what remains of that country—those are the two reasons for the halt in the Greek drive forward. But now that Klisura has fallen to our Allies, it can confidently be expected that further calamities will overtake the Italians. With the fall of Klisura, the strategically important town of Tepelini—keypoint of the Italian defence of Valona and South-Western Albania generally—comes within the immediate range of action. For a month now, in bitter weather, the Greeks have been closing in; the Italians are reported to be retreating and, unless something unforeseen happens, Tepelini will soon be isolated. Slow but certain, the Greek forces are advancing along a wide front—the struggle for Tepelini is only part of a general strategy which, so far, has proved almost perfect. The picture above shows Klisura and the mountain ranges flanking the River Voyosa on to Tepelini; it gives a graphic impression of the nature of the rugged country in which the struggle is taking place

# WHERE IS THE GERMAN ARMY?

*An Analysis of the Dispositions of the 6,000,000 Germans Now Under Arms Throughout Europe*

By Commander
EDGAR P. YOUNG, R.N.

WHERE is the German Army? We know, within sufficiently accurate limits, what is its strength in men and material, and to what maximum that strength might be increased. We know also, broadly speaking, over what territories it is distributed. Although any deductions made as to the actual distribution of the German forces must be, by necessity, largely a matter of conjecture, it is impossible for the student of the present war situation not to ponder over the map of Central Europe and to endeavour to form some mental picture of the giant military chessboard upon which some vital move must, sooner or later, be made. There are certain broad factors which may assist in building up this mental picture, and if we bear in mind the well-known dictum that "war is a continuance of policy by other means," and if we imagine ourselves in the position of our opponents, it should not be impossible to arrive at certain conclusions which are reasonably likely to be accurate.

In the first place, we must get it quite clear in our heads that, as our Prime Minister has pointed out with commendable bluntness, this war is a resumption of the struggle of 1914-1918. It is a resumption, therefore, of a struggle between Britain and Germany—and their respective Allies—for colonial empire outside of Europe.

Germany has learned, as a result of her former defeat, two important lessons:—(1) That she must avoid, at all costs, becoming engaged on more than a single front; (2) That she must contrive, before coming to death grips with Britain, to render herself invulnerable (so far as is possible) to the deadly weapon of our naval blockade, and to place herself in a favourable position for developing a positive challenge to our sea power.

The occupation of Denmark and conquest of Norway provided the German fleet with strategic advantages which its admirals had sought in vain for half a century, though it made no direct contribution towards the defeat of the Franco-British Army in the west.

The conquest of the Low Countries developed these naval advantages, and contributed to the downfall of our French ally, with the consequent withdrawal of our Expeditionary Force from the continent of Europe.

As a result of these military successes, and of the entry of Italy into the war against us, Germany now finds herself in a position to turn the full aggressive force of her military machine against this country in a variety of ways and places. The initiative is in her hands, until such time as we use the superior mobility afforded by our still preponderant sea power to wrest it from her, and we are therefore placed, for the time being, on the defensive.

Since the total military forces which we can hope to mobilise has been estimated at 50 divisions, as compared with the 250 divisions which may be mobilised by our opponents, it is evident, even allowing for the fact that only a part of those 250 divisions could be used for offensive purposes against us, that our ability to defeat them must depend on our skill in anticipating where and how they will be used, and in concentrating superior forces to meet them.

Leaving Italy out of our calculations for the present, since she seems to be hard put to defend her positions in Albania and North Africa, let us try first to determine what forces Germany might be able to use for offensive purposes.

It has been estimated that she has under arms at the present time somewhere about 6,000,000 men, and it would seem doubtful whether, even by using foreign labour to supply them, she could maintain a larger army.

A large part of these must, however, be retained for defensive and policing purposes, both in Germany and in the numerous countries which she has occupied. It would seem probable that quite 4,000,000 men must be employed on these duties, distributed as follows:—

| | |
|---|---|
| Germany, Austria, Poland and Czechoslovakia | 1,000,000 |
| Norway, Denmark, Holland and Belgium | 1,000,000 |
| France and the Balkans | 2,000,000 |

These four million men would be required primarily for the maintenance of Nazi domination in the countries named, and would probably have to be reinforced as necessary if those countries were subjected to attack from outside. A strategic reserve must therefore be maintained somewhere for the purpose of such reinforcement, and the size of that reserve will depend on the enemy's estimate of the danger of external attack. If, for instance, we were to send small expeditions to raid up and down the enemy's long seaboard, any one of which he would be obliged to regard as potentially the opening of a large-scale offensive to regain strategic points that are vitally necessary for the achievement of his ultimate objective, the reserve immobilised might well run into seven figures, thus leaving the enemy with a force of a million or less at his disposal for offensive purposes. His offensive force might be similarly reduced, if not indeed completely annulled, if the diplomatic situation were to develop in such a manner as to make him fear an attack from the East.

Hitler must feel reasonably sure, however, that in the existing circumstances, unless some drastic change should take place in the internal affairs of this country or of the U.S.S.R., he need not provide against the possibility of having to wage war on two fronts. It would seem improbable, therefore, that there is any truth in the reports that he has constructed a vast defensive system against attack from the East and that he has manned it with a million men or more.

This brings us to the conclusion that Hitler has somewhere between one and two million men at his disposal for offensive purposes, and we may assume that he proposes to use them. Let us consider, therefore, where they may be and how they might be used.

In considering these matters, we must not lose sight of the fact that our enemy's main objective must be the frustration and destruction of our sea power. If he could achieve these, the invasion of our islands would become a mere formality. While, therefore, we may assume that an attempt to reduce Britain by invasion remains a possibility against which we must provide, it is perhaps more probable, in view of the effective measures against invasion which we have now perfected, that Hitler is concentrating his effort now on the alternative policy of reducing us by aerial bombardment and by blockade.

It would seem that he is concentrating the whole of his navy and a large part of his air force on this effort, and that his policy towards both neutrals and defeated countries is directed to the achievement of its success. It is only reasonable, therefore, to assume that he is contemplating the use of his army to the same end.

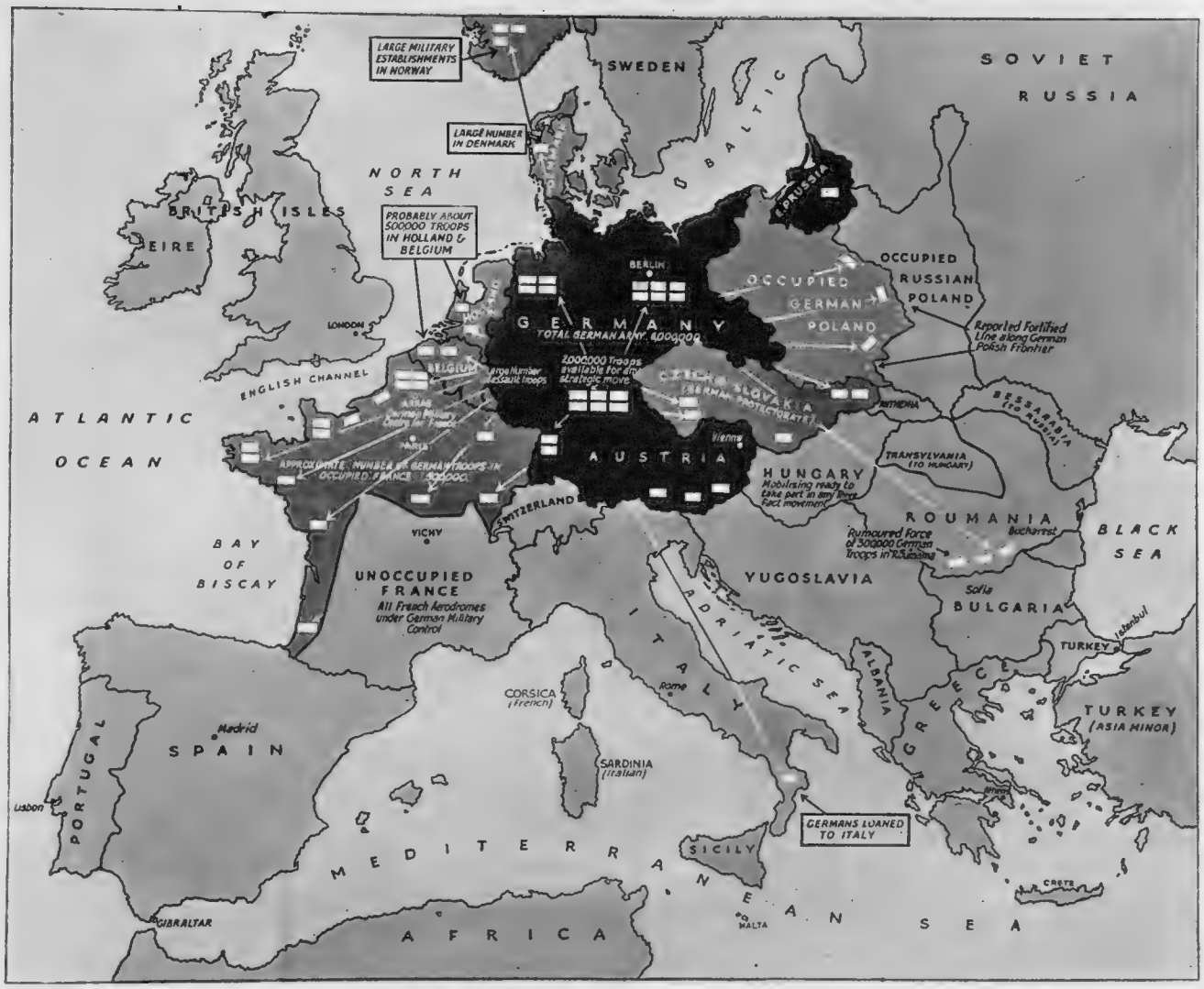
There are two ways in which this might be done. Either, or both, of them may be attempted in the near future.

The first way, which would involve less risk for the Germans, would be to call on Spain, and perhaps also Portugal, to show their loyalty to totalitarianism by becoming openly belligerent on the side of the Axis. German forces might then be passed through into Tangier (whose change of administration may have been carried out in anticipation of such action), and thence used for the occupation of Spanish and French territories in North Africa, including the strategically important base at Dakar.

Such action, while in one way easing our task of blockade, by doing away with neutral ports through which supplies can still leak through to the enemy, would still further extend our patrol lines, which have already been described by the late Lord Lothian as "dangerously thin."

It would thus reduce the risks involved in the use of the German Army against us in another way, for the invasion of such places as the Shetland and Faroe Islands, Iceland and even Greenland, which are not too difficult of access from Norway, or of Eire, which might be attained by an expedition starting from France. The occupation of any or all of these places by the enemy would seriously increase the effectiveness of the attacks now being made on our sea communications, on which depend the maintenance of our great war effort, and would reduce the effectiveness of our blockade.

It would seem probable, therefore, that the main body of the German Army, apart from what may be called the armies of occupation, is concentrated between Bordeaux and the Pyrenees in preparation for a massive movement towards the south, and possibly also for the invasion of Eire from a base which is comparatively unobserved and unharassed by the R.A.F., while smaller bodies wait in the vicinity of Bergen to despatch by sea and air to seize outlying positions already mentioned. Any defensive reserve is most likely to be stationed somewhere near Vienna, to be used only in the event of an offensive being developed northwards from the Ægean, with instructions to hold the line of the Danube against any such development, but not to attempt any counter-movement beyond that line.




**HOW THE 6,000,000 MEN AT GERMANY'S COMMAND ARE SPREAD THROUGHOUT EUROPE:** From Norway down to the Spanish frontier and to Italy and Rumania large numbers of German soldiers and equipment are dispersed throughout Europe. The strategic reserve consists of 2,000,000—mainly concentrated in Germany and Czechoslovakia: large bodies of the remaining 4,000,000 are practically immobilised in various countries held in subjection by the Nazis

THE COMING OF THE RAINS IN LIBYA: DURING THE ADVANCE ON BARDIA THE WEATHER BROKE AND HEAVY RAIN SET IN OVER THE WESTERN DESERT. HERE IS AN ARTIST'S CONCEPTION OF THE SCENE

DAWN IN THE RAIN-SOAKED DESERT: TROOPS AND ARMOURED CARS DEPLOYING FOR AN ATTACK IN LIBYA AFTER THE OPENING OF THE RAINY SEASON, WHICH OCCURS BETWEEN OCTOBER AND APRIL—*Drawings by D. Macpherson*

# The ADVANCE on TOBRUK

## *And the Bombing of Tripoli by the R.A.F.*

### WITH A NOTE BY MAJOR C. S. JARVIS—*on "Rain in the Desert"*

THE rainy season of the Libyan Desert is due to start any time after October 1 and last until the end of April, but it is always a very uncertain factor, and the first falls may not occur until the end of November, whilst rains as late as the beginning of June are not uncommon. These rainy spells consist of recurring heavy thunder-showers and usually last three days, but later in the winter, in December and January, the wet periods may extend for six or seven days, and the whole of the coastal belt becomes saturated and waterlogged.

The *wadis*, or dry watercourses, then flow bank-high with muddy water to the sea, and the old Roman *harabas* (underground reservoirs carved from solid rock) fill to the brim. There are a considerable number of these in suitable spots, where a natural catchment area coincides with solid rock just below the surface, and in the days prior to the war the Egyptian Government cleaned out the silt from and repaired a considerable number of these. Those of them that have not been destroyed to deny them to the enemy will have been of the greatest value to our troops.

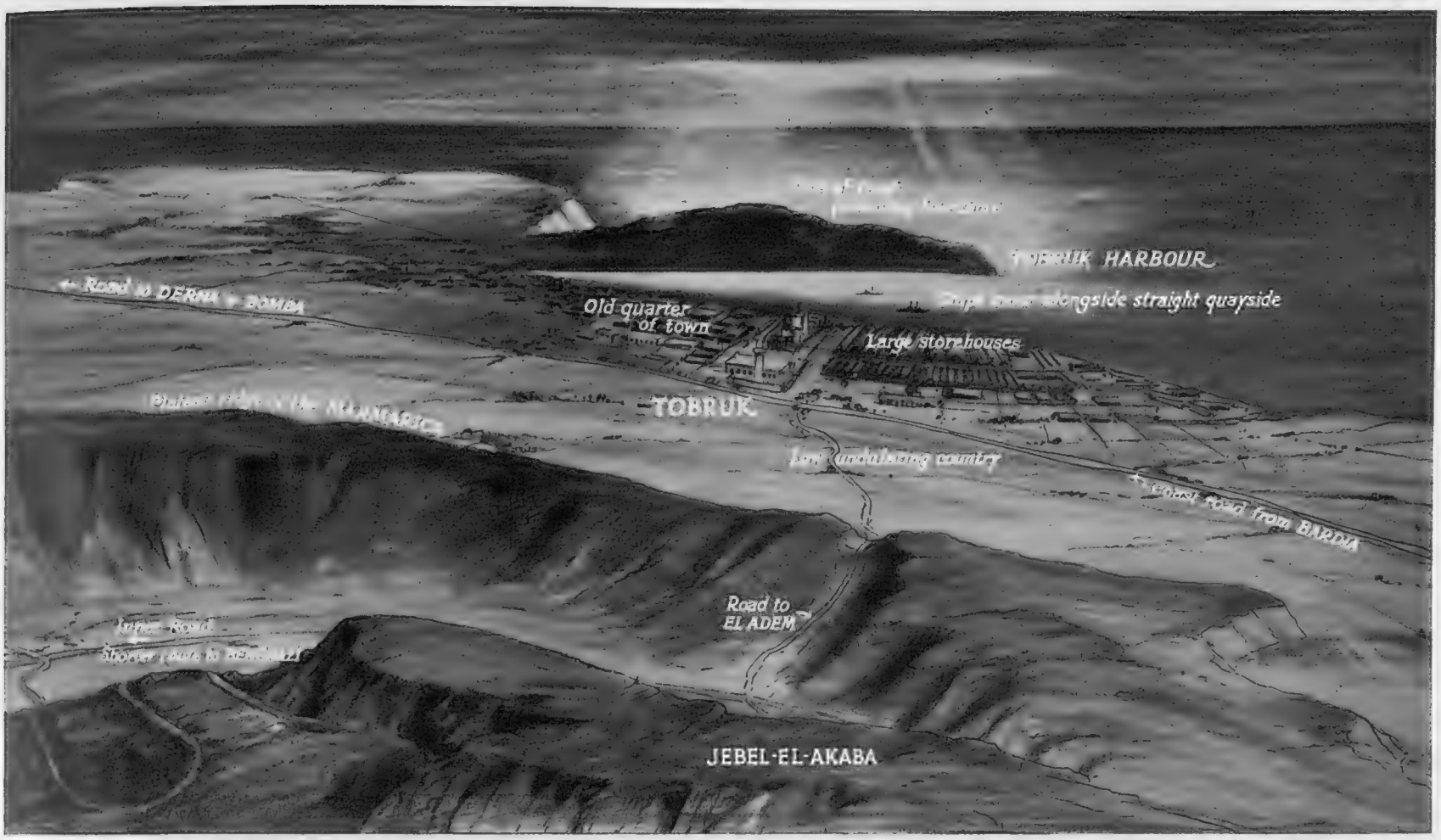
In mid-winter the coming of rain is usually presaged by a gale from the south—from the heart of the Sahara. This blows in the form of a sandstorm for from two to three days, and then dark clouds begin to bank up on the northern horizon, whilst at night there is a constant flicker of lightning from all sides. On the third day the wind changes to its prevailing quarter—the north-west—and the big rain-clouds work inland so that one squall follows another intermittently, until the rainy spell is for the time being over and bright sunshine intervenes. During these periods the whole of the coastal belt of clay and light gravel becomes waterlogged, and the temporary landing-grounds and all tracks are practically unusable.

In the high desert some, thirty to forty miles south of the coastal belt heavy rain is unusual, and when the region by the shore may experience a 2-in. rainfall, the desert to the south will only receive intermittent showers, just damping the surface. The nature

*Drawing by E. G. Lambert*

ITALY'S HIGHLY PRIZED CITY OF TRIPOLI, WHICH HAS BEEN BOMBED INCESSANTLY BY THE R.A.F.

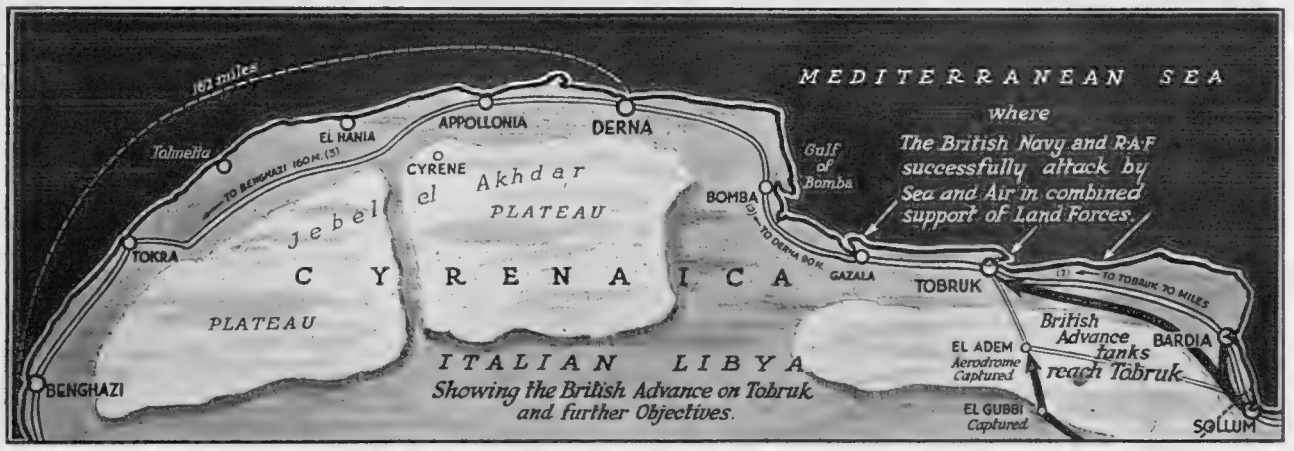
This important capital city of Tripolitania lies on the North African coast; since its occupation by the Italians it has been converted into a first-class port, with a railway-line stretching out into the interior. From this city, too, three famous caravan routes diverge—to Lake Chad, Timbuctoo and Darfur. As the nearest harbour of importance to Sicily and Italy, it has been used a lot during the present campaign by the Italians. For many weeks now it has been a target for the R.A.F.; naval vessels moored there have been hit, the jetty and seaplane hangars and power stations damaged. Distances in Northern Africa are great, and the raids on Tripoli from Egyptian bases must represent a round flight of 1,300 to 1,400 miles




**ITALY'S MOST IMPORTANT HARBOUR AND BASE IN EASTERN CYRENAICA: THE PORT OF TOBRUK, NOW BELEAGUERED BY GENERAL WAVELL'S FORCES, WHO ARRIVED THERE VERY SHORTLY AFTER THE SUCCESSFUL STORMING OF BARDIA**—*Drawing by Percy Home*

After Bardia—and without pausing—General Wavell's Army of the Nile is now pushing on to Tobruk. This is Italy's most considerable base in Eastern Cyrenaica, and throughout the present campaign it has served as a focal-point for the Italian "advance into Egypt." Tobruk has a good natural harbour, which is usable in all weathers; the largest of its three wooden jetties can take steamers of medium tonnage alongside. Units of the Italian Navy, too, have been stationed there and have been subjected frequently to attack by the R.A.F. From the harbour good roads run southwards to Bardia—now in our hands—and to the El Adem aerodrome, which the enemy abandoned and which we now also hold. To the south of the town are big barracks, whilst to the east and west are fortified walls. In normal times the population of the town was over 4,000, one-fifth of these being Italians. Tobruk was originally acquired from the Turks in 1912

of the soil in this part is not affected by rain, and though the wet spells may hamper operations on the coast, they do not affect movement farther south, which is the important part of the present operations.




**THE COAST ROAD—MUSSOLINI'S FAMOUS MOTOR ROAD—FROM BENGHAZI TO SOLLUM, SHOWING THE STRETCHES OF PLATEAU IN THE INTERIOR AND THE DISTANCES BETWEEN THE VARIOUS MILITARY OBJECTIVES OF THIS REGION**

**HOW THE AUSTRALIANS SWEPT THROUGH BARDIA WITH BAYONET AND RIFLE, WHILST THE TANKS WENT ON TO CUT THE ROAD TO TOBRUK**—*Drawing by R. Davies*

The key to the wonderful British victory at Bardia was the Australians' epic smash-through of the perimeter defences. "The northern sector, where the rocky terrain is seamed with a steep and intricate system of ravines, looked a tough proposition," writes one correspondent. "But the whole crumpled like a house of cards when a frontal attack coincided with the Australian drive in the rear. Clambering like acrobats up and down the precipitous ravines, the Australian infantry, with fixed bayonets, dodged the hail of bullets from the scattered machine-gun nests and swept on to take the northern defences in the rear. As they charged, others, with tanks, stormed in from the west and spread out on either side of the main Tobruk-Bardia highway"

**THE LONG ARM OF THE R.A.F.: A Wellington bomber starts off on a long-distance raid over enemy territory. On the ground another aircraft is being prepared for a later flight**

# The WORK of the BOMBER COMMAND

*A Complete Exposition of How Raids on the Enemy are Conceived and Carried Out by the R.A.F.'s Powerful Striking Arm*

THE BOMBER COMMAND of the Royal Air Force is our first line of attack. It is the spearhead of our offensive against Germany, and in carrying the War to the enemy's doorstep it is certain to have a decisive influence on the course of the War as a whole.

Since the Bomber Command went into action on a general scale for the first time on May 10, 1940, following the German invasion of Holland, hundreds of tons of bombs of all sorts have been dropped on objectives in Germany.

Yet the chief work of the Bomber Command still lies in front of it. Strong as this section of the R.A.F. is already it is as yet but a shadow of its future power, both in the types of aeroplanes it will operate and in their numbers.

A large bomber force is the major strategic arm of any air force. It is the foundation of all Air Power and the nucleus of any Independent Air Arm. The duties on which its strategic power is based are fourfold :—

(i) The destruction of the enemy's industry and hence his basic power to make war.

(ii) The smashing of communications within enemy territory.

(iii) The holding up of the land forces of the enemy.

(iv) Harassing his sea forces.

In the attainment of all these objects an independent bomber force seeks to undermine the will to war of the opposing nation.

The tactics adopted by the Bomber Command of the R.A.F. are slowly building up to the one purpose in view—the blockade of Germany from within and the control of the country from the air. To achieve this in its final form a complete mastery of the air over enemy territory is a necessity. That we shall hope to achieve eventually.

Despite the need for temporary diversions from the main objectives to deal with German preparations for invasion from the Channel ports, the Bomber Command has already achieved much in holding up the enemy war effort in both Germany and Italy. For instance, the supply of synthetic oil from the numerous German refining plants has dropped by some 50 per cent. because of the attentions of British bombers. Reliable estimates set the reduction of German aircraft production by about 20 per cent., not only because of the destruction in the factories themselves, but also because of difficulties of transport.

In the seventeen months of War the operations by the Bomber Command of the R.A.F. have passed through five distinct phases. They were :—

(i) Leaflet raids over Germany, photographic reconnaissance and attacks on enemy warships. (From September 1939 to March 1940.)

(ii) Security patrols over German seaplane bases, combined with the former operations. (December 1939 to March 1940.)

(iii) Operations over Scandinavia following the German invasion. (April to May 1940.)

(iv) Efforts to stem the German advance in Holland, Belgium and France after the launching of the main German offensive. (May to June 1940.)

(v) Night bombing of Germany and attacks on the "invasion ports." (July 1940 onwards.)

During all this time the power of the British air offensive has slowly developed. At the same time the crews have become experienced in navigation and bomb-aiming over enemy territory, so that there is no doubt that the effect of each bombing raid is now greater than it was when the War began.

Although the bomber crews chafed under the political ban on the carrying of bombs over Germany in the early months of War, those months of regular flying over Germany and on into Czechoslovakia and Poland, through one of the worst winters of the century, certainly provided invaluable training for the men and useful testing for their machines. For instance, on January 12, 1940, Armstrong-Whitworth Whitleys flew over Prague, Vienna, Linz and Frankfurt for the first time. The return distance was some 1,400 miles. A little later these flights were extended to the Baltic, an even greater distance. The first British aeroplane to make this flight, a Handley Page Hampden, did so on February 26, 1940, in vile weather.

As operating experience was gained and the weather began to improve, even these long flights were exceeded. On March 7, Armstrong-Whitworth Whitleys carried leaflets over Western Poland and covered more than 1,500 miles.

## OUTSTANDING DATES
### In the Bomber Command's Story

**1939**

*September* 4—First British bomber action against German warships at entrance of Kiel Canal

**1940**

*March* 19—First British bomber raid on land targets—the flight to the island of Sylt, which was heavily bombed with H.E. and incendiary bombs

*April* 9—From this date increased bombing activities were brought about by German invasion of Norway, entailing long and difficult flights

*May* 10—The British Bomber Command endeavours to check the German invasion of Holland and Belgium, using both British and French aerodromes as bases

*May* 15—First bomber attack on railway junctions and important centres east of the Rhine; these were continued from this date

*May* 30 to *June* 4—The Bomber Command assists the Dunkirk evacuation by bombing the enemy troops

*June* 11—On the day after Italy's entry into the war Turin was bombed

*June* 17—Following capitulation of France, bomber squadrons mined German coasts from the air

*August* 25—Berlin railways and industrial centres bombed for first time

*September* 15—The Bomber Command checks invasion attempts by large-scale raids

*October* 27—Long-distance bombing raid to Skoda Works, Pilsen

*October* 28—Italy's invasion of Greece gives Bomber Command a new field—over the precipitous valleys of Albania

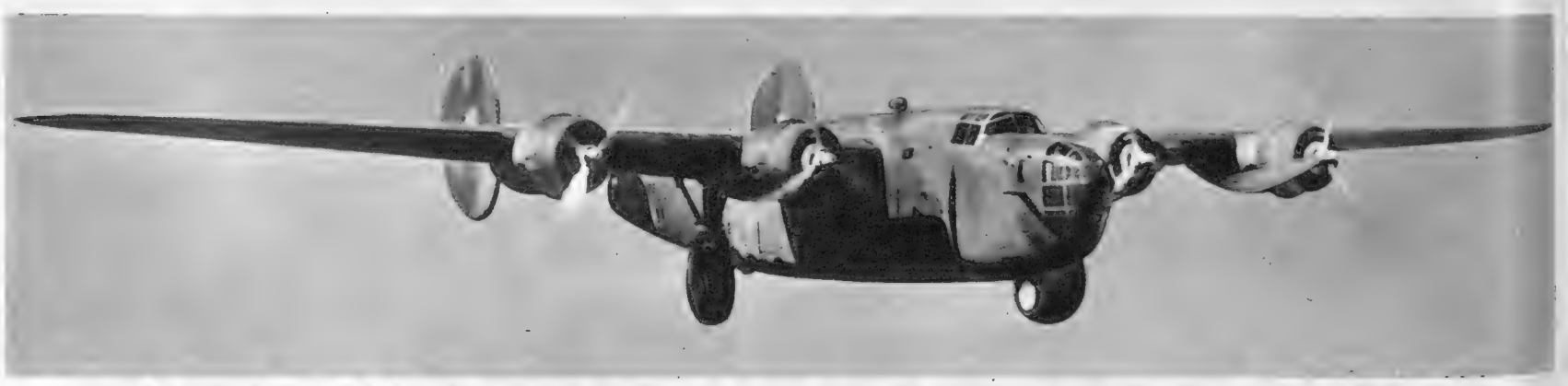
*November*—Danzig, Dresden and Berlin heavily bombed

Many of these long-distance flights were made from aerodromes in France. Of these the chief night-flying aerodrome used by the R.A.F. was that of Villeneuve, near Rheims.

During the early months of 1940 the enemy began to harass British shipping in the North Sea. Most of the raiders flew from the fortified island of Sylt, off the Friesian coast. To prevent night-flying activities by these marauding seaplanes the Bomber Command instituted "Security Patrols" over the enemy bases from dusk to dawn. Whitleys sat over the German seaplane slipways and bombed any flare paths laid out so that the machines could take off.

The monotony of these operations was broken on the night of March 19 when, following a German raid on Scapa Flow, the Bomber Command plastered the island of Sylt with heavy and incendiary bombs. This was the first British raid on land targets since the War began.

Before this Vickers-Armstrongs Wellington bombers had scored successes against enemy warships. In fact, the very first British action of the War was on September 4, 1939 when a force of Wellingtons and Bristol Blenheims attacked German warships at the entrances to the Kiel Canal. In these encounters the R.A.F. discovered that although the Wellingtons were heavily armed with power-operated turrets and were able to give a good account of themselves, yet daylight operations against strongly defended areas did not pay. From that time forward the Bomber Command abandoned its tactics of sending out big formations of bombers in daylight and reverted instead to the less expensive tactics of night bombing by a succession of single machines. The Germans took a long time to learn the same



**THE NEW GIANT AMERICAN BOMBER, OF WHICH A NUMBER ARE NOW ON THEIR WAY TO FURTHER STRENGTHEN THE BOMBER COMMAND**

Of all the big bombing aircraft produced by the United States, this is regarded with the most favour by the experts, even more so than the well-known "Flying Fortresses." This Consolidated "B24" is manufactured at San Diego, in California; it has four motors which give 1,200 h.p. each, it has a high wing of special shape which incorporates great lift with little air resistance, and a tricycle undercarriage. This huge aircraft weighs 20 tons; it has a cruising speed of 300 miles an hour and a range of 3,000 miles

lesson, and were at first loath to turn to night raiding because of the meagre experience of their crews in night flying. This omission cost them hundreds of aeroplanes and thousands of men in the summer of 1940.

Air Marshal C. F. A. Portal was appointed Commander-in-Chief of the Bomber Command on March 28, 1940. His appointment was followed quickly by more active operations evoked by the German invasion of Denmark and Norway on April 9.

For a month the Bomber Command hammered the German troops, ships and aerodromes in Norway, a task made difficult by the long sea crossing necessary before they could strike at the enemy. Nevertheless, raids were made by day and by night and the German operations were hampered and numerous casualties inflicted.

Then on May 10 Germany invaded Holland and Belgium and a new phase of the War began.

The Bomber Command immediately flung itself into the task of checking the enemy forces. Flying from Great Britain and France, the Whitleys, Wellingtons, Hampdens, Blenheims, Beauforts and Battles concentrated on enemy troops on the move and on their means of communication. Acting in close co-operation with the Allied Armies and the Fighter Command of the R.A.F., tanks, bridges and aerodromes were ceaselessly attacked.

The long-prepared plan for the bombing of industrial and military objectives in Germany could now at last be set in motion. On the night of May 15 British bombers took off for the first time in this War with bombs aboard destined for objectives in enemy territory.

From May 30 to June 4 the Bomber Command helped make possible the evacuation of British and Allied troops from Dunkirk by the bombing of the attacking troops of the enemy. On June 5 the first night raids on Great Britain began.

By this time the raids on Germany had become regular practice every night, although a great part of our force had to be diverted in the attempt to hold up the German advance.

On June 10 Italy felt the War was safe enough to enter. On June 11 and 12 the Bomber Command proved this supposition wrong by flying over the Alps to bomb Turin. After that the French prevented more raids from being made from their own aerodromes and subsequent raids on Italy were made non-stop from England by Whitleys and later by Wellingtons.

France gave in on June 17, but the bombing of Germany by night went steadily forward. As well as the direct attacks on industrial targets, communications and ports, a portion of the Bomber Command regularly flew up the German coast and effectively mined it from the air. These minelaying operations were extended even to the Baltic.

Only the urgent situation created by the enemy's preparations to invade this country was allowed to divert the bombers from their set purpose. A portion of the Bomber Command was diverted to smash the concentrations of barges and troops at the Channel Ports, and, on September 15, the day on which the Fighter Command gained its greatest victory, the Bomber Command succeeded in checking the invasion attempt by large-scale bombing raids.

Before this Berlin had been raided for the first time on August 25. It was raided many times afterwards, not because it was the German capital, but because of its importance as the centre of all the railways of Central Europe and because of the industries concentrated there.

Thereafter the raids by the Bomber Command were so numerous that they cannot be tabulated. One or two examples stand out, however, as of particular importance. Thus, on October 27 the vast Skoda Works at Pilsen were raided for the first time. Italy's invasion of Greece gave the British bombers new bases in the Mediterranean and advantage was taken of this fact to send out squadrons to operate from Greek soil. They flew over Naples and bombed it with effect. "See Naples and dive" became a new slogan.

Munich was bombed on November 8, just after Hitler had finished speaking there. Danzig and Dresden were attacked for the first time on November 10. The biggest raid of the War on Berlin on December 20 ended 1940 with as much activity for the Bomber Command as there had been boredom twelve months earlier. In all the bombing operations from July 14, 1940, a total of only 321 aeroplanes were lost.

Behind all the strategy of these big operations there is a detailed planning of which little is known. Most people are now familiar with the "briefing" given to bomber crews by the station Intelligence officers before they set out on a raid. But few know how those targets are selected in the first place and how decisions of what objectives should be attacked are reached each night.

In its fundamentals these decisions are those of the highest policy, which can be taken only by the War Cabinet. On the shoulders of the Cabinet rested the policy that no bombs should be carried over enemy territory during the first seven months of war.

In the more detailed interpretation of these articles of policy there is a very close co-operation between the Air Staff and with the Intelligence Service on the one hand and the Ministry of Economic Warfare on the other.

Our many and devious channels whereby information is gained by our Intelligence sections suggest profitable objectives for attack. This information is checked by the photographic reconnaissances continually made by the R.A.F. by day and by night.

All the evidence is examined and sifted and carefully fitted into the general strategic scheme by the Air Staff in consultation with the Ministry of Economic Warfare.

For instance, the attacks made on the Dortmund-Ems Canal were part of the plan to bring to a standstill the transport of the essentials of war carried on Germany's waterways. The continued attacks on German oil plants and oil stores are all part of the same plan to cripple the communications of the enemy and seriously hamper the German war effort. If information is received regarding a target of military importance, then word is sent along from Intelligence to Headquarters of the Bomber Command with details of the place and its importance. It is put on the list of desirable objectives and receives attention as the opportunity presents.

The Ruhr is a frequent objective not only because of its industrial importance, but also because it is conveniently close to our bases to make it an easy objective when the weather may prevent flights to the more distant targets. Yet the movement of certain sections of German Industry has not removed them from the operational range of the British bombers. Raids on Danzig and the Skoda Works have shown this.

New and still more powerful bombers which are now coming into service will make possible still more concentrated raids on the distant objectives as time goes on. Meanwhile an analysis of the capabilities of the Vickers-Armstrongs Wellington gives a good idea of the striking force of the Bomber Command to-day.

The Wellington, equipped with two Bristol Pegasus XVIII motors of 1,000 h.p. each, has a maximum speed of 250 m.p.h. and a range of 2,000 miles carrying 2,500 lbs. of bombs cruising at 180 m.p.h. The bomb-load can be made up in a variety of ways, according to the target to be attacked and its distance from the bomber station. For instance, eighteen bombs of 250 lbs. each can be carried or may be exchanged for nine bombs of 500 lbs.

A range of 2,000 miles is apt to be a little misleading to the casual observer, as it implies a theoretical distance covered in "still air"—a condition which never prevails in fact. A better way of expressing it, is that a Wellington has a duration of 11 hours at 180 m.p.h. That means that with a bomb load of 2,500 lbs. a Wellington can fly to a point 800 miles from its base in an average head wind of 20 m.p.h., remain an hour over its target and then return home with petrol to spare. An aeroplane of this type uses something like 60 gallons of fuel per hour when cruising and has a maximum capacity of 1,020 gallons with reduced bomb-load. The normal crew is five, including nose- and tail- gunners, radio-operator, pilot who acts as captain of the ship, and a second pilot who also navigates.

And now what of the future? for with the spring we shall be entering yet another phase of the War with the prospects of renewed and even more desperate attacks by the enemy.

The Bomber Command is growing in strength every day both from our own soaring production and from the slowly mounting production in America. It will not be diverted from its set purpose of slowly but relentlessly smashing the war effort of the enemy by calculated and well-aimed bombing. Soon the nights will be growing shorter and the cover of darkness will be less of a help for the long-distance raids, such as those on Prague and Italy. Furthermore, when the offensive begins to reach its peak we shall need to maintain the pressure on the enemy by day as well as by night, pounding his industries and his communications and never allowing him breathing space to repair them.

The trend of development is thus towards the high-speed day bomber which can rely on its safety not in darkness but in its speed of evasion. The big heavy bomber may be excellent as a weight-lifter and as a night-flying machine. But the small fast bomber which can carry a moderate load of bombs to a distant target repeatedly in a short time is the type of aeroplane which will pave the way to victory.

Germany can be broken from within, and the Bomber Command of the R.A.F. is the force which can achieve this object in co-operation with the Navy's blockade.

C

**AT THE AIR MINISTRY: THE BOMBER'S MAP OF GERMANY:** Red flags denote raids in 1939; yellow flags those of 1940. Where a target has been raided steadily only one flag is inserted. It is interesting to note the large cluster in the Ruhr District, and the isolated flags in the East which denote the long-distance raids

**A BOMBER CAPTAIN GIVES INSTRUCTIONS TO HIS CREW BEFORE THE TAKE-OFF:** Every detail will have been worked out beforehand—to the *nth* degree; but individual crews are allowed some liberty in the choice of their routes

**RATIONS FOR MEMBERS OF THE BOMBER'S CREWS:** Each packet contains raisins, nuts, sweets, chocolate and chewing gum—and these will be consumed in the air during the night

## FROM HIGH COMMAND TO PILOT—How Orders for Bombing Attacks are Handed Down

High strategy of the Air Force decided by **the War Cabinet**

*(This body is responsible for the strategic nature of to-day's bombing)*

↓

Detailed interpretation of Cabinet's policy worked out by **Air Staff, Intelligence Service, and Ministry of Economic Warfare**

↓

Detailed information, instruction, and suggestion passed on to **Bomber Command,** who study the objectives indicated

↓

**Individual Bomber Stations** receive instructions that it is desirable to bomb certain targets

↓

The position and nature of the foregoing targets notified to the **assembled bomber pilots,** who either take prescribed routes, or plot out a course for themselves

↓

The pilots, with their crews, start from the aerodrome, and in due time reach the objective

Drawings by Roland Davies

**THE WONDERFUL CAMERAS USED BY THE AIR FORCE, AND HOW THEY ARE OPERATED IN THE PLANE**

When it is desired to take a *series* of pictures, the camera is usually placed vertically in the aircraft, with its lens protruding beneath the fuselage. Once loaded, the camera will continue to take a series of 125 pictures without any further attention. If only a few pictures are required the camera is usually held in the Observer's hands, as shown *on the right*, and the pictures are taken obliquely. In the first case the camera is operated electrically and starts at the turn of a timing switch. When hand-operated, only a control button need be pressed at the time intervals required. The whole camera is a beautifully constructed piece of work

# HOW R.A.F. PICTURES ARE MADE

Aerial photography over enemy territory, both as an aid to subsequent bombing attacks and to ascertain the extent of the damage already inflicted, is of inestimable value to the R.A.F. Owing to the much greater heights at which the aerial photographer of the present war has to operate, instruments of far greater precision have had to be evolved, and such troubles as freezing, condensation of the lenses, etc., have had to be overcome. Two of the largest photographic firms in the country are constantly experimenting on behalf of the R.A.F., especially in the perfecting of night photography, which to-day provides readable pictures taken from a height of 4,000 ft. The value of the air photograph is greatly enhanced by the new methods of rapid developing and printing of the long rolls of film, and the R.A.F. has plant capable of turning out 500 prints an hour from any negative. The prints are passed on to the "readers," who extract military information from them. Often the quickness at which photographs are in the hands of these "readers" determines their value to the bombers

**PHOTOGRAPHING FROM A HEIGHT OF 20,000 FT.**

In the last war it was usual for reconnaissance planes to carry out their photographic work at a height of from 8,000 to 10,000 ft. To-day, thanks to the wonderful perfection of modern R.A.F. cameras, good pictures can be taken from a height of 20,000 ft. Not all pictures are taken from this height—the Taranto ones were taken from a lower level, for instance—but most of the problems connected with photography from a great height—and they are many—have now been successfully overcome

**AN OBSERVER AT A NAVIGATION SCHOOL HANDLING ONE OF THE BIG R.A.F. CAMERAS**

**A FLASH-BOMB, AS USED AT NIGHT FOR PHOTOGRAPHY**

In pursuing a plan for bombing vital objectives, accurate pictures of these are essential before details of the raid can be worked out; it is also necessary to know the havoc wrought by our bombers after a raid on hostile territory. For these purposes the camera is essential. One method of photography employed by the R.A.F. is illustrated here: it shows a flash-bomb released from the aircraft above. As the bomb bursts, the shutter of the camera is automatically operated and the pictures are then taken. Some aircraft drop a certain proportion of these flares with their high-explosives, and thus secure pictures at the actual moment of attack

**THE NEW ENGINE OF WAR—THE TANK:** After their devastating successes in France, it was thought that the Germans alone had the successful formula for this branch of warfare. General Wavell in the Western Desert, however, has demonstrated a knowledge of this Arm and a tactical method in its employment, which shows that the Germans will have to learn from *us* if they wish to exploit this new weapon to its fullest extent!

# The SPEARHEAD of VICTORY

## *The Tactics by which the Tanks and the New Mechanised Cavalry of Britain have Achieved Success in the Western Desert*

Described by DONALD COWIE

IMAGINE the initial line-up of those British armoured formations before they began their swift stab of victory across the Western Desert. Gayda claimed the other day that we used 800 tanks in all. Probably he was exaggerating, but it must have seemed like that to the Italians when the spearhead of steel passed through them. As I say, imagine that initial line-up—for the British Army was making history in that crowded hour.

First came the self-contained, highly mobile *armoured divisions*. They consisted of fast cruiser tanks, the finest of their kind, weirdly-caparisoned crews of six with helmets, headphones and leather jackets—formidable armaments. On the word "Go" they leapt ahead at as much as 30 m.p.h. to reach the Italian lines, encircle them, pierce them, smash down strong points, and then to race on, thinking only of extending their advance to its limits, the new knights in armour of a mechanical age.

I am putting it in this way so that the reader may obtain a clear picture of what has happened to tank tactics in our time. Now I must point out that besides those cruisers of the armoured divisions in the great line-up there were also other tanks, the slower, more heavily armoured vehicles of the *Army Tank Brigades*. They were, and are, specially designed to co-operate with infantry, and had such individual characteristics as skirts of armour to protect the tracks, with armament of an anti-tank two-pounder and a Besa machine-gun.

On the word "Go" they trundled ahead with the mobile divisions of infantry, until the pierced Italian lines were reached, when their job was to cover the fighting men and deal with any enemy tanks. Also participating, of course, were shoals of Bren carriers and many scouting formations of armoured cars, but these were not tanks. It is necessary to disentangle the matter, because that Battle of the Western Desert saw the British Army using tanks as they should be used for the first time in the history of warfare.

In a previous article in THE SPHERE I referred to the Royal Artillery as second only to the cavalry, but hinted at the likelihood that the cavalry would retain its precedence thanks to the development of the Royal Armoured Corps. General Sir Archibald Wavell has finally settled that. No one will now challenge the right of the R.A.C. to be described as the *corps d'élite* of the British Army. Let us briefly examine its extraordinary rise to power.

It has been said over and over again that the tank was originally evolved to break the hideous stalemate of trench warfare, and enable fighting men once again to advance and manœuvre in the open. The tactical use of the tank was simply that—and it took over a quarter of a century for the matter to soak in. Towards the end of the 1914-1918 war there were some proper tank attacks, but usually the weapon was cruelly misused. The infantry, in manner of speaking, took half a dozen along with them as a kind of subordinate novelty. As a result they were bogged, shot-up, cursed as white elephants.

As late as the Battle of France, June 1940, our tanks were mishandled in this way, although through no real fault of ours. When our armoured division arrived on the Somme it was split into several units, and these, because the French desired it, were sent to attack heavily-prepared positions. Meanwhile, the Germans were using their *Panzer* divisions as a single, self-contained military formation.

Let us return to that first Royal Tank Corps of the British Army. At the end of the war it was just getting into its stride. The Plan, 1919, approved by the Allied High Command, aimed to throw no fewer than 5,000 massed tanks against the Hindenburg Line in 1919. Foch said of the scheme: "I agree in every way. . . . Tanks are indispensable for clearing the way and supporting the rapid advance of the infantry. They must be used in as large numbers as possible."

But unfortunately that plan was never put into execution. On the other hand, the Germans never forgot what they had read in our Service journals about the plan, and General Von Seeckt, head of the *Reichswehr*, began teaching his commanders the essence of mass tank tactics long before the advent of Hitler. In France a young officer named de Gaulle was vainly endeavouring to convince his superiors that they should do the same thing.

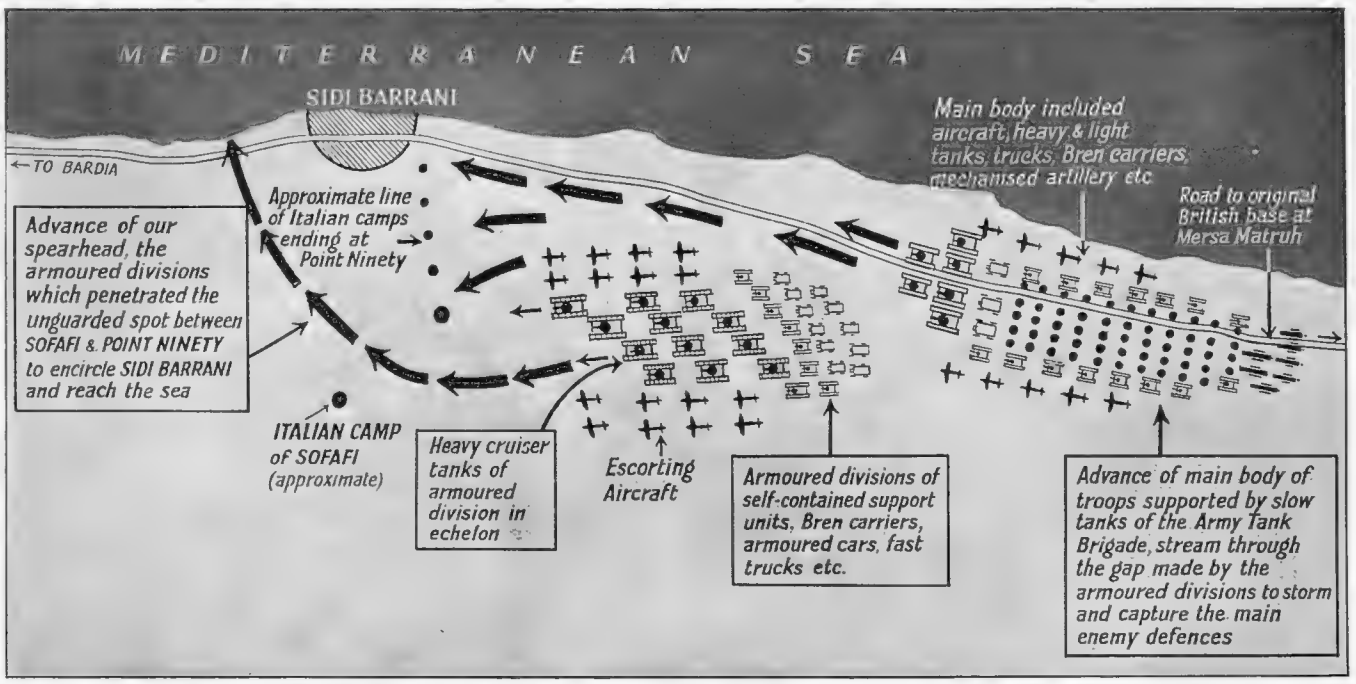
As I say, our Royal Tank Corps emerged without the prestige necessary to obtain full facilities for its further development and experiment. The Corps was regarded as necessary, but by no means first in the military hierarchy. The War Office was still not convinced that the day of infantry on foot with rifles, supported by artillery, had passed. Besides, these beastly tanks were so deuced expensive—£25,000 for just one of them—and the Army Vote had been pared away to nothing by a short-sighted nation.

Then came Hore-Belisha. He swept away the die-hards and forced the much-needed reforms upon the body politic. Perhaps his leading contribution was the formation, on April 4, 1939, of the Royal Armoured Corps. The idea was a bold—indeed, a revolutionary—one.

Briefly, all the cavalry regiments of the Army, with the exception of the 1st Royal Dragoons and the Royal Scots Greys, were ordered to dismount from their horses and clamber, instead, into tanks. They would comprise in future a Royal Armoured Corps, built on the nucleus of the old Royal Tank Corps, which would itself continue as a unit of the new body with the special title of the Royal Tank Regiment. Do you understand that? Our Royal Armoured Corps to-day consists of eighteen former Cavalry regiments of the line, as well as the former Royal Tank Corps.

It now seemed certain that if there were another war we would be well prepared for the worst, and would be able to use our own indigenous weapon, the tank, to ensure a speedy victory. What happened between then and June 1940 to dash these fond hopes?

First, we told all those cavalrymen to get into tanks and then omitted to provide—tanks. No effort was made to speed-up the factories; only the slender cadres of armoured divisions existed on the outbreak of war, and production was allowed to lag behind War Office demands during those initial, complacent months.




**TANK TACTICS AS THEY WERE EMPLOYED BY GENERAL WAVELL IN HIS FIRST BIG ONSLAUGHT—AT SIDI BARRANI**

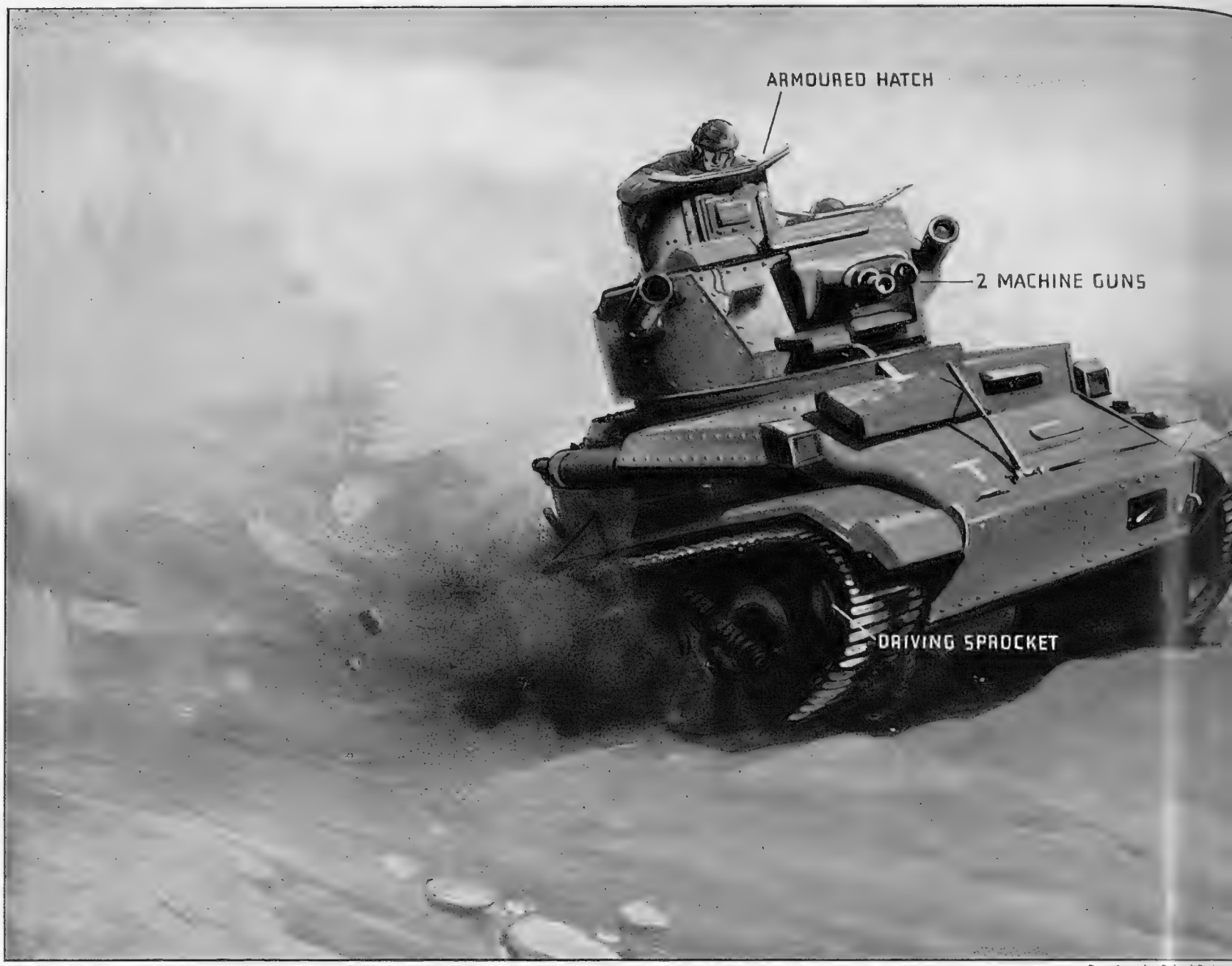
This diagrammatic exposition of the highly mechanised "Army of the Nile"—or rather the armoured spearhead of that Army—illustrates the main points summarised in the accompanying article and indicates the method whereby General Wavell's brilliant attack on Sidi Barrani was launched. Out on the left is the track followed by the Armoured Divisions on their road to the sea to cut the communications between Sidi Barrani and Bardia; these divisions—of heavy "cruiser" tanks and self-contained support units of Bren carriers, armoured cars, fast trucks, etc.—penetrated the unguarded spot near Sofafi, thus making an encircling movement around Sidi Barrani. It will be noticed that these divisions were protected by escorting aircraft. The main body of the "Army of the Nile" came up along the coast road; this consisted of the slower tanks of the Army Tank Brigade, lighter tanks, trucks, Bren carriers, mechanised artillery, and the rest—again heavily supported by escorting aircraft. This main body streamed through the gap made by the armoured divisions, and soon after its arrival the Italian resistance collapsed and the town and fortress of Sidi Barrani were ours

Second—and what is, in my opinion, more important, the main subject of this article—the cavalrymen were allowed, almost unconsciously, to influence the tactical notions of the Corps. They were cavalrymen and had been put into tanks. Well, tanks were the new cavalry. *But they were not.*

The prime roles of the cavalry in the old days were to provide reconnaissance. They were also used sometimes to give the infantry a protective screen, and of course there were, in story-book times, such epics as the Charge of the Light Brigade (but Shaw in *Arms and the Man* finally unmasked that legend). But the prime role of modern cavalry was to provide reconnaissance. So the Royal Armoured Corps began to grow—until June 1940—along cavalry lines. Tanks would speed ahead, smell out strong points, perhaps even tackle them. Then they would come back, take orders, and dash off elsewhere. There might occasionally be an opportunity for them to execute a lively little Charge of the Light Brigade on their own.

Please do not think that I am recording the actual thoughts of members of the Royal Armoured Corps. The real tank men, of course, had always had very different ideas. However—our tanks never had a chance in the Battle of France, just because they were

(Continued on following page)



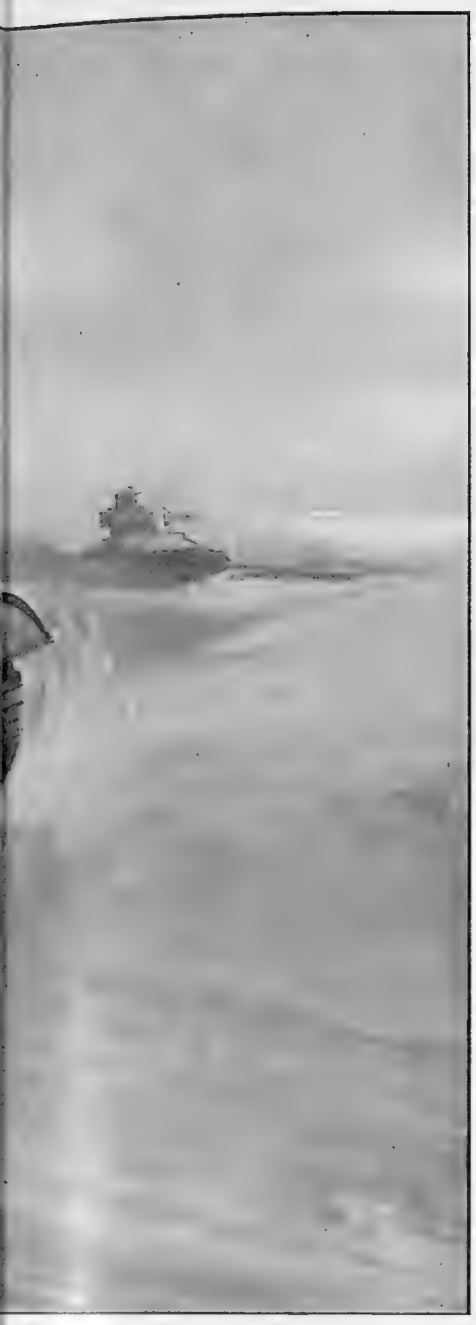

**THE LIGHT TANK—SOMETIMES CALLED THE "CAVALRY TANK"—WITH A CREW OF THREE AND AN ARMAMENT OF TWO MACHINE-GUNS**

*Drawings by Roland Davies*

There are cavalry regiments still in existence in the British Army and still mounted on horses; the rest have all been mechanised. And a number of them have been playing a large part in the fighting in the Western Desert, particularly at Jarabub and at Sidi Barrani and Bardia. The Italians say—in partial justification of their own poor show—that we have employed 800 tanks in the present operation: that is probably an exaggeration. Nevertheless, the fine display of mechanisation in the Desert must give pause to those who thought Britain was "down and out" after Dunkirk. And the display of the tactical methods of General Wavell must give pause to those who thought they knew all there was to be known about the employment of tanks

**A WELL-ARMOURED TANK OF THE "MEDIUM CRUISER" CLASS, WITH DRIVER IN FRONT AND A HEAVY GUN MOUNTED IN THE TURRET**

Whilst the mechanised cavalry go ahead in their fast-moving light tanks—acting as old-time Hussars, as they did at Jarabub and thus earned the praise of Mr. Winston Churchill—the medium and heavy tanks follow at a slower pace. These monsters form the main body of the attack; behind them shelter a swarm of lesser vehicles—and the infantry. Above them as they advance there are ceaseless patrols carried out by escorting aircraft ready to counter any attempt at dive-bombing by the enemy



**A TYPE OF FRENCH TANK, WHICH IS BEING USED BY GENERAL DE GAULLE'S FREE FRENCH FORCES :** Note the curious steel hoods at the back of the soldiers' heads ; when going into action the hatch seen lying flat in front is pulled up and joins with the inner of the two hoods to give complete protection forwards

## The SPEARHEAD of VICTORY—*cont.*

used for odd jobs, and scattered about, instead of being concentrated for a solid thrust through enemy territory.

This leads to another point—namely, that tanks cannot always be used to their best account in a defensive battle, and I shall return to that in a moment. Here it must be recorded that our Royal Armoured Corps, despite many brave feats of individuals, such as the occasion when the remains of two battalions fought an entire *Panzer* division for six hours and destroyed twenty German tanks, did not fight as a unit in the Battle of France, and when it did fight, was used for the wrong objects.

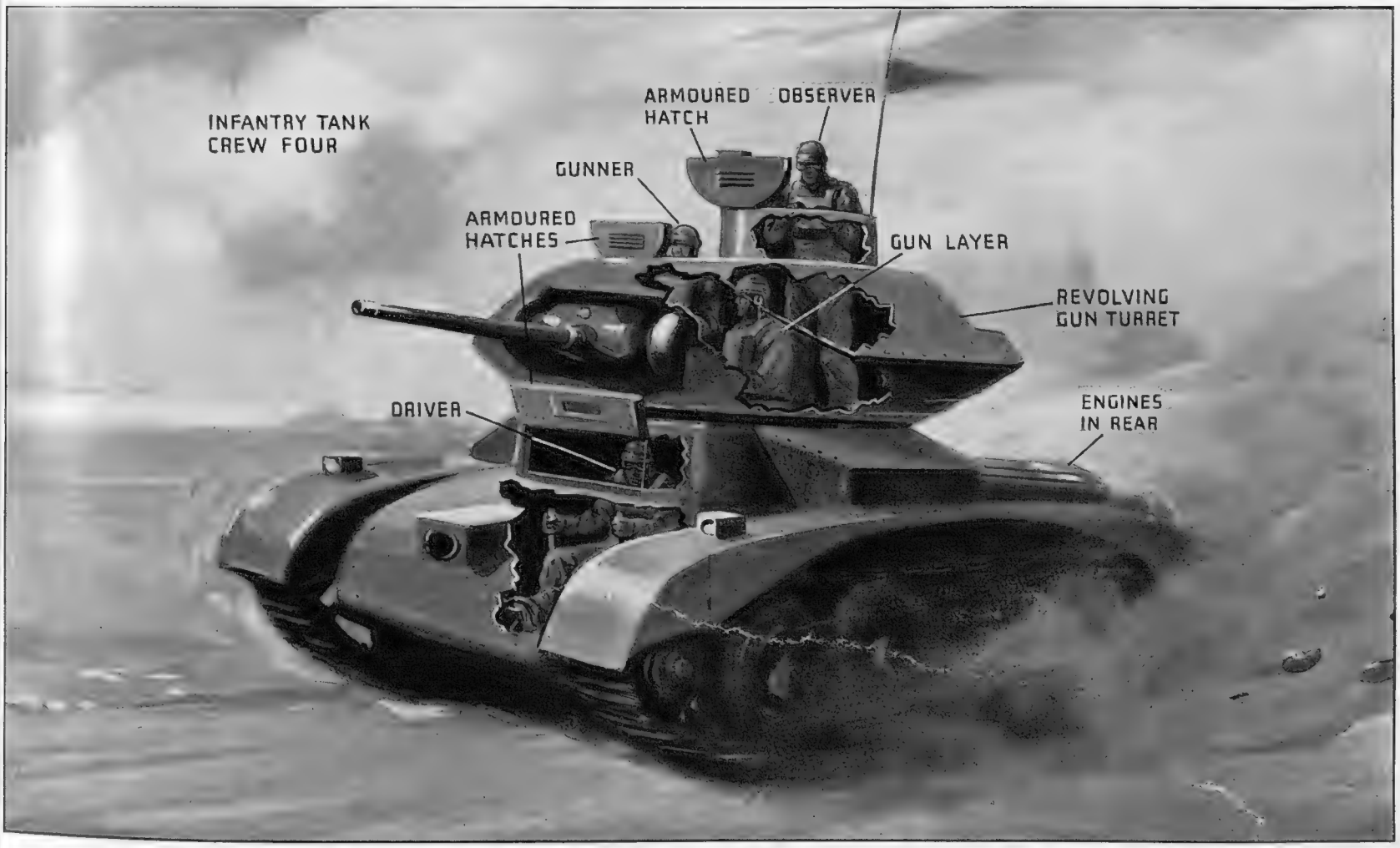
Meanwhile the *Panzer* divisions were bowling along the main roads, reaching Abbeville long before it was " humanly possible for them to do so "—I quote the words of a commentator at the time—and they were winning the battle for Germany by sheer initiative, endurance and common sense.

Fortunately, our High Command learnt the lesson, and now the first fruits are plain for all to see in Libya.

I described our armoured advance in the Western Desert at the beginning of this article. The essential fact of the matter is that the armoured divisions which led the attack were not scouting cavalry but strong offensive arms in themselves. They constituted an army of machines, a self-contained striking force with double the speed and many times the invulnerability of any that had been known in the past. They might retain cavalry names and traditions—still being organised in troops and squadrons—but they were essentially a new thing in warfare, carrying their own support groups with all arms and ancillary services included. The infantry might trundle behind accompanied by infantry tanks, but already there was a feeling that those might be anachronisms, condemned to an inevitable merger in these armoured divisions proper. Can you envisage that, an army of tanks alone—of tanks and aircraft ?

Aircraft do not come within my province, or I would have dealt with the co-operation between spotting and bombing planes with advancing tanks that were such a vivid feature of the German drive through France, and might have figured in our desert advance also. Co-operation is important, but I do tend to see the future of modern warfare as a *conflict* between aircraft and tanks.

I remarked that tanks were not so good on the defensive. They must keep moving, and that means moving forwards. Now Germany will stand on the defensive when we enter Europe again. . . .




**AND HERE IS AN " INFANTRY TANK " WHICH NOW CARRIES OUT THE ROLE FORMERLY PLAYED BY THE FOOT SOLDIER**

The whole lay-out of one of these highly specialised vehicles is here shown : the driver (who directs the vehicle by means of two massive levers, not by a steering-wheel) sits behind an armoured hatch ; above—in the movable turret—is the gunner with his gun-layer in a compartment of their own, also protected by hatches ; the observer—usually an officer and in command of the whole vehicle—has his position right above. The engines are at the rear. Wherever an obstacle is encountered which might hold up the advance, the tank blasts a path through

# THE MOTOR TORPEDO-BOATS OF THE BRITISH NAVY

*The Speedy Little Craft now being Employed Round Our Shores even in the Rough Seas of Winter*

Described by FRANK C. BOWEN

AT the present time it would seem that the German Navy is putting great trust in its motor torpedo-boats, which have become popularly known as E-boats, although that is only a naval contraction for "Enemy Boats" in making signals, reports, etc. The British have not advertised that arm of their Navy nearly as much, but from time to time reports of its feats have shown that it is receiving the most careful attention, and even in bad weather in the winter months is building up a fine reputation for good work.

The idea of the motor torpedo-boat is really a revival of the small steam torpedo-boat craze in the 'eighties of last century, when the great idea was to present the smallest possible target to the big ships' anti-torpedo guns. Such little hornets had gone out of fashion in favour of bigger vessels better able to keep the sea in bad weather, but during the late war they returned to naval favour with the coastal motor boats based on the design of Thornycroft's famous racing boat, *Miranda IV.* She was a typical racing boat of her day, with hard bottom lines and steps to let her skim over the water, but all rounded on her top-sides.

The first idea was to carry coastal motor boats on the decks of light cruisers and lower them in Heligoland Bight to pass over the minefields with their light draught and cut up the German "outpost flotillas" which were seeing the U-boats safely on their way. The idea was changed, and as the boats were completed, they were sent down to the Dover Patrol for use on the Flanders coast. The original dozen had a length of 40 ft., a displacement of 4½ tons, enough fuel to carry them 160 miles and an average speed of 33½ knots. Later size, speed and ability were greatly improved, but, unfortunately, the invaluable element of surprise was thrown away by launching the first attacks when only a small number were ready.

The stability of the early coastal motor boats was not enough to permit torpedo tubes to be fitted on deck, which is the ideal for all torpedo craft, while the powerful engines occupied the forward end of the hull and left no room for a fixed bow tube to be fitted, quite apart from the danger of the boat running down the tail of its own torpedo. After a good deal of discussion it was decided to carry the torpedoes aft, where there was plenty of room, but it proved to be unnecessary for the boat to turn away from her target to aim them; one or two torpedoes fitted in troughs in the after part of the boat could be discharged stern foremost and the boat could get out of their way before their screws had gripped the water and were starting to drive them forward. Remarkably accurate aim was possible by this means. Depth charges were also carried, substituted for the torpedoes in their troughs, and in the later days, mines.

The Germans also experimented with coastal motor boats during the war, but wanted them principally for defensive purposes, and therefore planned craft which were larger and slower than the British. For offence they preferred crewless boats controlled from a station ashore on wireless information sent by aircraft; they were twin-screw boats each of whose propeller shafts had attached to it a reel holding miles of piano wire connected with the shore. They were driven and steered by the relative speed of the two screws, but this was soon improved and the wire, paid out as the boats travelled, was used for actuating electric motors. Later they were fitted with internal combustion motors and controlled by wireless waves, but they achieved very little.

After the war a coastal motor-boat depôt was established at Haslar, at the entrance to Portsmouth Harbour, but official enthusiasm waned in the interests of economy—largely on account of the large proportion of officers required—and the branch was finally allowed to die out in the British Service. There was an attempt to revive the type in the British long-term programme of 1925, but it was one of the sections which were dropped for economy, and it was not until the 1935 estimates that motor torpedo-boats were again considered. The Abyssinian trouble and the concentration of the Fleet in the Mediterranean immediately afterwards gave a tremendous impetus to the type.

Mr. Scott-Paine's British Power Boat Company, which had made a great reputation with racing motor boats, produced a revolutionary design adapted from the rescue launches which they had built for the Royal Air Force. It was quite unlike the wartime C.M.B., very square above the waterline instead of the rounded topsides given to the Thornycroft design, and did not suggest either speed or seaworthiness, although it possessed both qualities to a very high degree. The first boats supplied to the Admiralty were 60 ft. long by 13 beam, the total load displacement being 15 tons. They had three petrol motors with a combined horse-power of 1,500, from Napier-Lion aeroplane engines adapted to marine use, which were good for a speed of 35 knots. Two 18-in. torpedoes were carried in troughs, and the boats were fitted with eight Lewis guns as a protection against aircraft or attacks by their own kind. They were very uncomfortable in a sea, as such small boats are bound to be, and their speed was naturally affected, but they proved surprisingly seaworthy and reliable. The first flotilla of six went down to the Mediterranean and proved their qualities.

Private firms were invited to design their own experimental boats, and the invitation was accepted by White's, of Cowes, Thornycroft's, and Vosper's, of Portsmouth, while the British Power Boat Company improved its design. The Vosper Company supplied 68- and 70-ft. boats, the White design was just over 67 ft. long, and the Thornycroft 70. Motors of various types were fitted to twin or triple screws, the speeds varied from 42 to 47 knots, torpedo tubes were placed on either side of the deck, improving the efficiency of the weapon, 21-in. torpedoes were substituted for 18-inchers in some designs and the anti-aircraft armament of machine guns was increased and improved in efficiency. The last pre-war programme provided for a number of these boats, but how many have been built since, and how their design has been improved, is naturally kept a very close secret.

France, which had produced some striking 46-knotters in 1927, recommenced construction in 1937. Their design was more a development of the original coastal motor boat, with many improvements, but they also acquired some Scott-Paine boats which received excellent reports. The Germans also started building motor torpedo-boats in 1933, called Schnellboote, and having a number preceded by the letter "S." Their early boats of this type had a length of 93 ft., very much longer than the British, a displacement of between 55 and 62 tons, and speeds varying from 30 to 38 knots. They carried two 19-in. torpedoes in tubes, one on either side of the deck, and a one-pounder pom-pom anti-aircraft gun. These boats were experimental, and no doubt the design has since been stabilised, for it is obvious that the Germans have been turning them out in very large numbers. Nearly thirty of them had been completed before the outbreak of war.

The utility of this type to the Germans has been greatly increased by the occupation of the French and Flanders coasts, and they have been put to a large variety of uses in the North Sea and Channel. They admittedly scored a number of early successes against British merchant ships, but in this they were helped by rather exaggerated ideas of their power; since the defenders have got their measure they have not been nearly so successful. They would also appear to have attained a very moderate success against warships, and they also have a considerable "nuisance value" which has to be regarded in strict relation to the work that they actually do. Latterly they have been used for laying mines in small fields, always the most troublesome to the other side, and in this they would appear to be very much more certain than the planes which had been laying them with the help of parachutes, when they were often carried right out of the Channel and sometimes on to dry land. In this work they have to face the danger of noisy engines betraying their position, but this can be overcome to a very great extent by running at low speed.

Although it is necessary to regard the possibilities of the motor torpedo-boat with a sense of proportion, especially as it is impossible to neglect the inevitable results of her small size in a seaway, she undoubtedly possesses great promise in the hands of resolute young men and has already logged some fine achievements against enemy submarines, surface warships and transports. On more than one occasion British and German motor torpedo-boats have come into contact, but the results have not been as conclusive as we would wish. With such a very high-speed type escaping tactics have a particularly good chance, but it is already obvious that the larger size of the German boats has not given them such a great advantage over the British as might be expected; they are always anxious to break off and be away.

**A BRITISH M.T.B. AT WORK OFF THE BELGIAN COAST**—*Drawing by Montague Dawson*

This picture by Mr. Dawson typifies the work of these fine hornet craft; it has been painted to illustrate a recent official Admiralty communiqué which runs as follows: "In the early hours of the morning our motor torpedo-boats carrying out offensive patrol off the Belgian coast made a successful attack on a large armed enemy supply ship of between 6,000 and 7,000 tons. The enemy ship was seen to break up and sink. Fire was opened with machine-guns from the enemy ship just before she sank but this fire was ineffective. An enemy escort ship, a vessel of trawler type, was then engaged by machine-gun fire from our M.T.B.s and hit. A torpedo was fired at the enemy trawler and an explosion was felt by our M.T.B.s and the enemy ship ceased firing. . . ."

# GENERAL SMUTS in EAST AFRICA

*On a Visit to the South African Fighting Forces in Kenya*

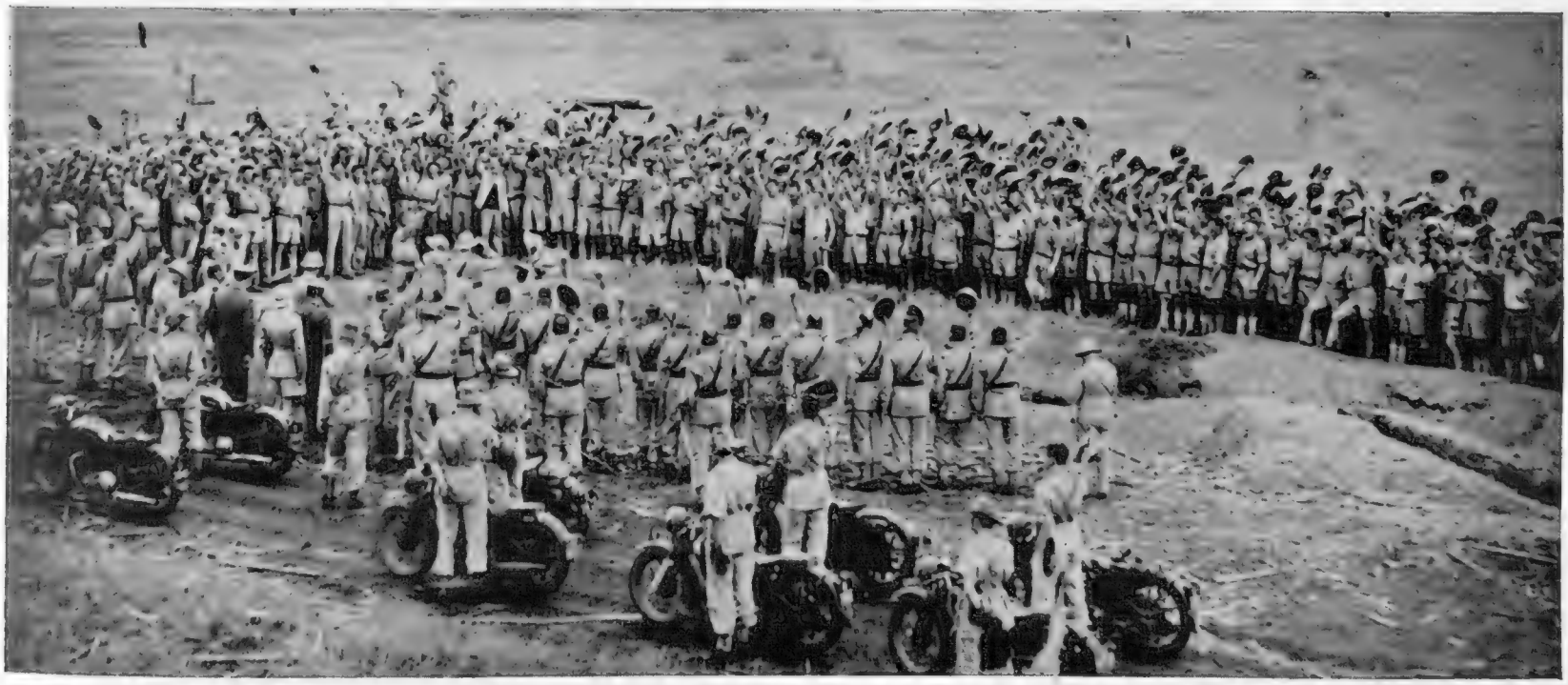
**GENERAL JAN SMUTS IN THE FRONT LINE IN EAST AFRICA :** Not only is he Prime Minister and Minister of External Affairs, but also Commander-in-Chief of the South African Forces. He is a very vigorous man of affairs at seventy years of age, and believes in seeing things for himself!

**THE NEW G.O.C. IN EAST AFRICA :** Lieut.-General Alan Cunningham, the new General Officer Commanding the East African Forces. His appointment was only recently announced

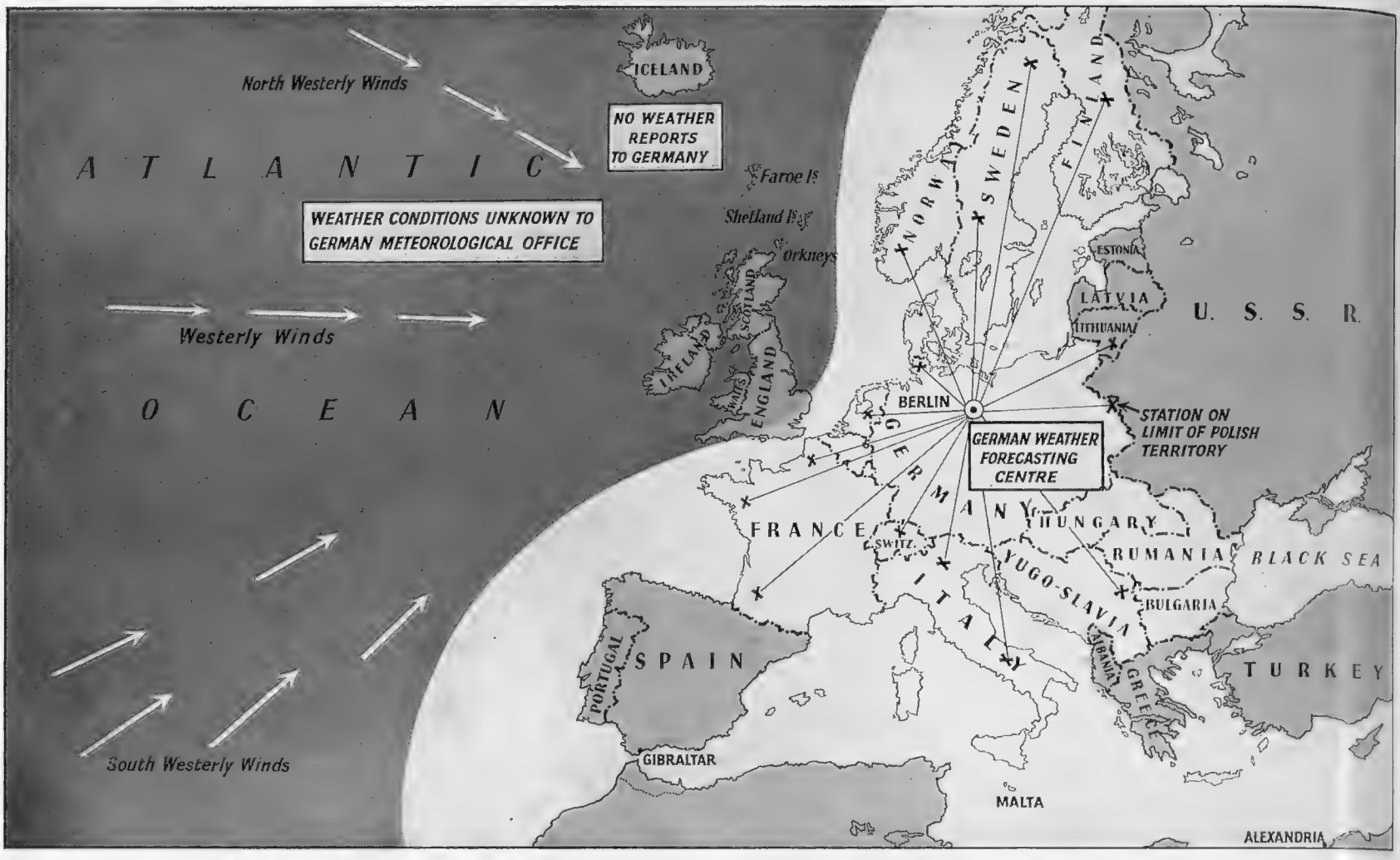
**GENERAL SMUTS MEETS HIS SON AT THE FRONT :** 2nd Lieut. Jan Smuts, youngest son of the South African Premier, is an officer in the Engineers. He is now with the African forces in Kenya

THE SOUTH AFRICAN PREMIER AND LIEUT.-GENERAL ALAN CUNNINGHAM, G.O.C., IN EAST AFRICA, HAVING MORNING TEA OUT OF TIN MUGS AT AN AIR FORCE MESS IN THE DESERT

GENERAL SMUTS AND HIS PARTY AFTER THEY HAD ALIGHTED FROM THEIR PLANE. ALTHOUGH DISTANCES ARE GREAT IN SOUTH AFRICA, AIRWAY COMMUNICATIONS ARE NOW HIGHLY DEVELOPED AND LONG JOURNEYS CAN BE CARRIED OUT VERY EXPEDITIOUSLY



**THE PRIME MINISTER DELIVERS AN ADDRESS TO THE SOUTH AFRICAN TROOPS DRAWN UP IN A SQUARE :** This incident occurred during the recent visit of General Smuts to the South African troops now operating in Northern Kenya under the command of General Cunningham. The incident was quite unrehearsed. When the Premier was recognised by the troops as he toured the front-line positions he was called upon by the soldiers for a speech and was received by them with a tremendous ovation. The South African forces are now operating with great success on the Kenya–Abyssinia border




## A FORE-KNOWLEDGE OF THE WEATHER AS A WAR FACTOR

A very important aspect of Britain's sea blockade of Germany is the way in which weather news is prevented from reaching the enemy's meteorological office. Germany is aware of the steadier, more static, conditions of Central European weather, and this diagram shows, approximately, the points from which specific weather reports could come to Berlin. But the area of the more rapidly-changing west, with all the uncertainty of a suddenly falling barometer, is denied them. Reports from Iceland and from ships at sea telling of changes in the Atlantic weather can no longer be obtained. There is a distinct element of danger to the enemy in this lack of precise weather knowledge

ONE OF THE TWO PILOTS OF THE R.A.F.'S DAILY "WEATHER FLIGHT" GETTING INTO HIS SPECIAL FLYING EQUIPMENT FOR A FLIGHT UP TO 25,000 FT.

THIS PILOT HAS JUST RETURNED FROM HIS WEATHER FLIGHT AND IS MAKING OUT HIS REPORT

Whatever the weather conditions, and despite the threat of high-flying enemy bombers and fighters, there is one British plane which always takes the air every day of the year. This is the meteorological plane flown by R.A.F. pilots from one of Britain's bomber stations. Even during the coldest weather this country has known since 1894, the weather plane has climbed up to its 25,000 ft. day after day—so that the pilot might take readings of the humidity, temperatures and barometric pressures all the way up to the "ceiling," to learn weather secrets vital to the naval, military and air forces. Last winter the thermometer fell to 45 degrees below zero, and one day there was a reading of 90 degrees of frost!

# HOW BRITISH WEATHER IS BORN

*Some of the Factors Which go to Make it so Unpredictable*

By C. L. HAWKE

(*Secretary of the Royal Meteorological Society*)

SOME of us who studied physical geography at school long ago will remember being taught that British weather is born and bred on the Atlantic Ocean simply because the atmosphere moves from west to east in consequence of the earth's rotation about its axis. In many ways it is a pity that this is a faulty and unscientific generalisation. Were it true, we should enjoy a much more temperate climate, with no extreme heat in summer, and no severe cold in winter. We should also have still better opportunity than we possess in the present war for keeping the enemy in the dark about coming weather changes.

Actually, the circulation of the atmosphere is so complex that even to-day it is far from being fully understood. This earth's rotation is but one of many controlling factors. Britain's weather may come from any point of the compass. Occasionally in winter and early spring, it is imported to us from the Continent for weeks on end. Indeed, there is some evidence that at certain periods in the past, England's prevailing westerly winds were replaced by easterly winds for years or even decades at a stretch. However, that has not happened within the memory of anyone now alive, and on the general average of modern times, we get our weather from the Atlantic four or five days out of every seven. That is why it is so vitally important to withhold meteorological information from the enemy. Not only must we prevent him from finding out what is going on here, but we must do all we can to ensure that he is kept guessing about what is coming to him. Nothing can be left to chance. So strict is the ban on the publication of current weather views, that if Britain were to be swept by the worst blizzard on record to-morrow, the Press would not be allowed to report it. Furthermore, lest the German experts might find a clue to the secret code in which our meteorological data are transmitted to and from headquarters, it may not even be allowed to mention what temperatures were reached on

FOR INVESTIGATING THE UPPER ATMOSPHERE BY BALLOON AND WIRELESS

Air Ministry meteorological officials use an ingenious instrument for investigating the upper atmosphere and recording weather conditions. Small balloons are sent up to test the temperature and pressures at great heights. Small short-wave transmitting sets (*on left*) are attached to the balloons and automatically transmit to earth every movement of the thermometer and barometer carried with them. When the balloon reaches a certain altitude it bursts and as the equipment falls a small parachute opens and brings the delicate instruments safely to the ground. A reward is given by the Air Ministry to anyone who finds one of the sets and returns it intact to them

**THIS IS WHAT HAPPENS TO THE DANUBE WHEN IT FREEZES OVER**

Germany's main highway down into Rumania is the broad River Danube, which carries a vast amount of traffic of all descriptions. The early and severe winter this year, however, has already caused the river to freeze over, and all traffic is now at a standstill—a severe blow to the German war machine. This picture shows the frozen Danube at Budapest

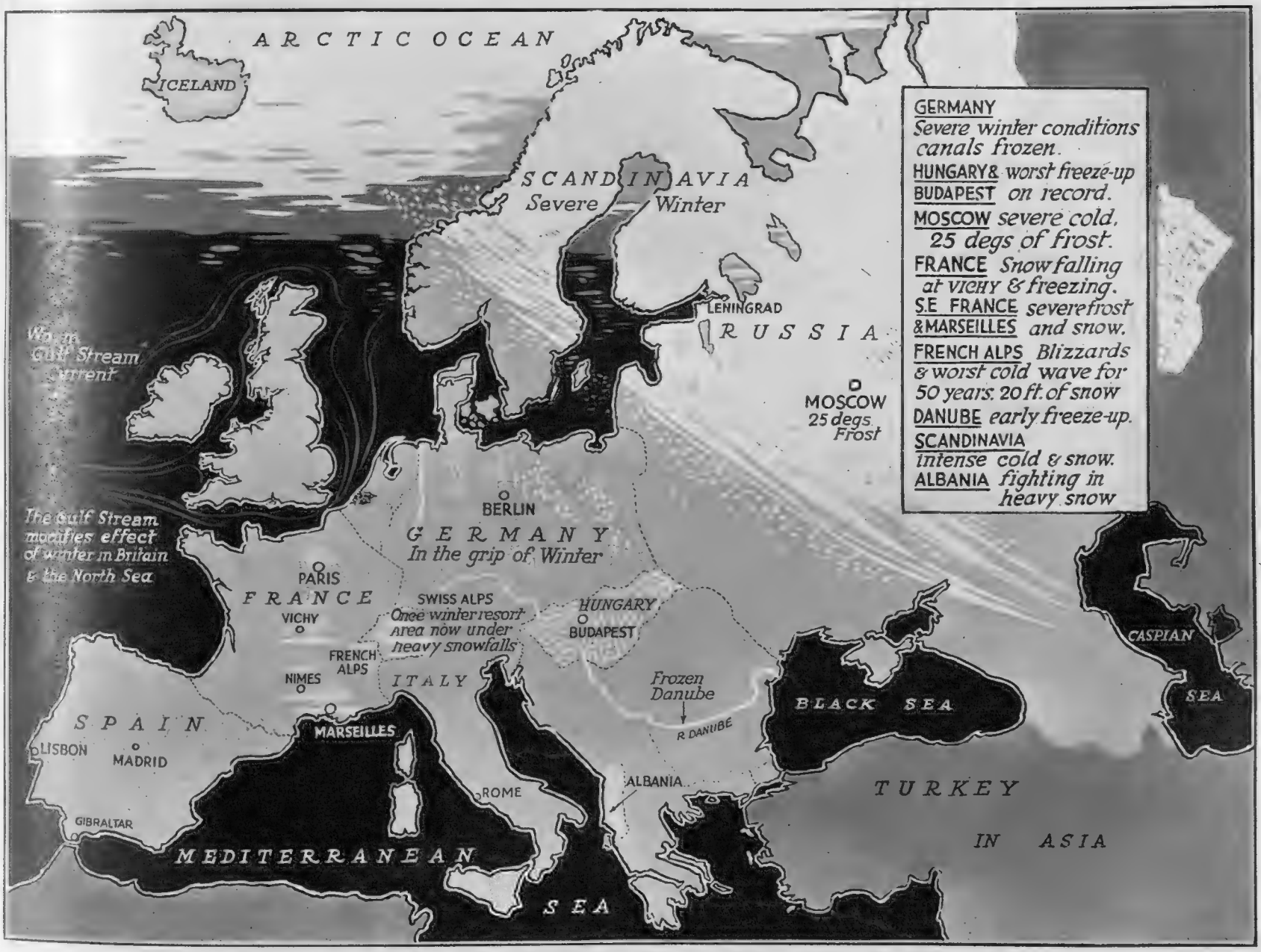
the hottest day of last summer and where they were recorded.

For the notoriously treacherous character of the British climate, we must blame the fact that one of the world's main storm-tracts fringes our north-western seaboard. Well aware of this, the Nazi authorities take the greatest pains to overcome our "information blockade" and to provide their weather forecasters with up-to-date news of happenings in and near that tempestuous zone. In an attempt to serve the purpose, some of their submarines are equipped with meteorological instruments, the readings of which, made on the surface of the Atlantic when no Allied warship is in sight, are wirelessed to Germany at frequent intervals. Aircraft are constantly being sent over our island on weather reconnaissance flights. One of the most important results of our occupation of Iceland is that Germany has since lacked information from one of the chief key-points to the accurate prediction of European weather. In brief, despite the enemy's temporary control of so large a part of the Continent, they are now, meteorologically speaking, no better off than before their wholesale annexations of territory were undertaken.

This is no time to list the occasions during the present struggle on which ignorance of weather conditions over and near the British Isles has contributed to our adversary's undoing in the air. Instead, let us recall a historic instance from the last war. On the evening of October 19, 1917, a fleet of eleven Zeppelins left Germany in what were then supposed to be ideal conditions for an attack on London—light westerly breezes, clear skies and a ground mist. Nine of the aircraft reached the capital, one dropped a heavy bomb in Piccadilly. Meantime an unforeseen cyclone was developing off Cornwall. While the ground mist thickened into fog, obliterating landmarks, the upper wind veered northward and suddenly increased to a severe gale at the raiders' height of 18,000 ft. All unawares, the returning Zeppelins were driven southward over France, well behind the Allied lines. Believing themselves to be nearing home, they decreased their altitude to take bearings. Several of them were promptly shot down; one crashed into the sea; and to crown the disaster, the "flagship" of the fleet fell intact into the hands of the French. Although aeroplanes are less dependent than Zeppelins on wind and weather, we shall hear at the end of this war some equally dramatic tales of aerial catastrophes sustained by the enemy through their ignorance of meteorological conditions over the British Isles.

**FINDING OUT WHICH WAY THE WIND BLOWS:**

In the Navy, in the old days, it used to be done by wetting a finger, but to-day, with vastly higher speeds, it is essential to adopt a more complicated process, such as the above. With this instrument the special meteorological section of the R.A.F. can determine the speed of the clouds and wind




**THE WHOLE OF EUROPE HAS BEEN IN THE ICY GRIP OF WINTER—AN UNUSUALLY EARLY AND SEVERE ONE THIS YEAR**

Reports have been reaching Britain from all parts of the Continent of the severe wintry conditions now being experienced throughout Central Europe. The icy Arctic conditions usually—almost invariably—start across the Continent in the manner shown, sweeping down from Scandinavia at an angle across the map of about 30 degrees—so that the temperatures in, say, Sweden are often the same as at Moscow and as far south as the Caucasus. Germany, too, and France and Switzerland and Hungary have been gripped by the exceptional cold. The Danube is frozen, and snowdrifts have even been experienced as far south as Marseilles. Such conditions must be a great impediment to the free movements of the enemy; his supplies from Rumania and the other Balkan countries have already been hampered, and elsewhere his transport systems must have been very considerably disorganised

# THE RUSSO-TURKISH ENIGMA

## *Where the Two Countries March Side by Side: A Consideration of the Caucasian Topography*

DESPITE defence works built by the Russians on the Black Sea, a Russian offensive in the Caucasus—that strip of lovely land between the Black and Caspian Seas—is regarded by many authorities as out of the question. "But nothing is out of the question in this illogical world between the Adriatic and Asia," said a Balkan statesman to me just before the war. The Italian assault on Greece proves his case.

At any rate, if the flaming hand of war should hurl its brand, at Hitler's request, into Russia, the conflagration would doubtless reflect its heat in the pale skies of the Caucasus. For this region, hitherto associated in idle minds with the export of marrying princes and the Georgian birthplace of Stalin, is the region from which offensive action might be undertaken by the U.S.S.R. against England, through her ally, Turkey.

To the student of politics and warfare, the Caucasus means more than a great range of mountains towering into the sky; it means to-day that it may be the scene of a new "front" before we are through with the dictators.

Now, although we talked of a Caucasian front in the last Great War, actually the operations took place at a considerable distance from the mountains, as the chief place-name associated with the fighting—Erzerum—indicates. However, that campaign is interesting only because it shows once again the dependence of strategy on communications. And communications through the Caucasus Mountains, which resemble the Pyrenees rather than the Alps, are extremely difficult for a modern army.

For instance, the chief communications between Russia and Turkey are through the Middle Caucasus, the section through which the mountain system is narrowest. These communications, which can never be far from the minds of the Turkish General Staff, are chiefly the passes of Darial and Mamison.

Over Darial, which runs just east of Kasbek, is the Georgian military road from Vladikavkaz to Tiflis. This cuts through the mountains by a beautiful gorge eight miles long; it is shut in by cliffs 6,000 ft. high. The present Italian campaign shows the peril of armies forced to move between rocky gorges; such defiles, so vulnerable from the air, are picturesque and enchanting to the traveller, but a headache to any military commander. Built in the early nineteenth century, the modern military usefulness of the Darial Pass can be gauged by the fact that it is so narrow that there is only room for the road and the River Terek side by side. Then the pass by which the road crosses the main range farther south—called the Krestovaya Gora—is 7,805 ft. above sea-level.

The Mamison Pass, over which is carried the Ossetic military road completed in 1889, runs from the Terek to Kutais in the Rion Valley. Of the other passes in this section only horses can traverse them, and then only during a few weeks in the summer.

Yet over these passes came Tamerlane and the Russians in the last war. The snow-line runs at nearly 10,000 ft. on the northern face of the range and 1,000 ft. higher on the southern; and there are 900 glaciers. But this is a bleak and untrue picture, for the southern slopes are covered with luxuriant vegetation, and this sector is used for the cultivation of wheat, rye, barley, beans and tobacco.

As for railways, even now on this side of the possible Caucasian battleground there is only one really strategic railway, which runs from Tiflis to Erzerum. Apart from routes and railways, there is one more important consideration for the Russians.

Not so long ago Moscow Radio, in announcing new defence preparations in the Caucasus, gave strict notice to the world that she intended and was prepared to defend her Black Klondyke.

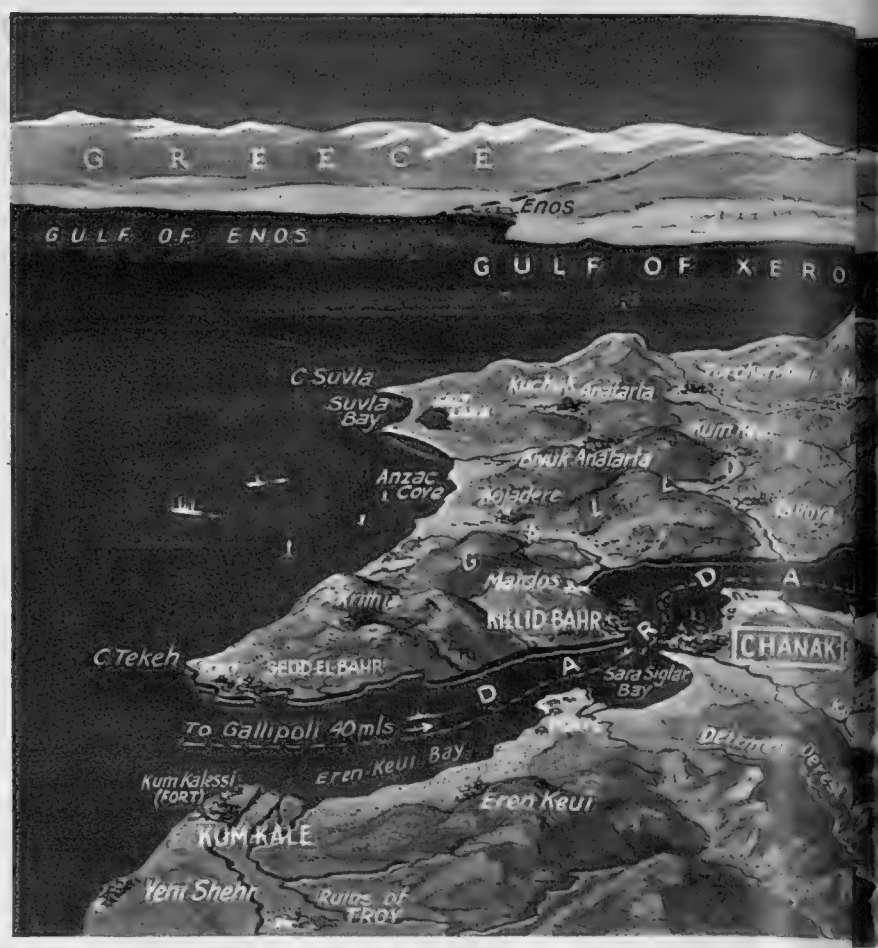
This area between the Caspian and the Black Seas is rough and very dirty and very rich; for this Klondyke produces not gold but oil—the mainspring of modern mechanised warfare.

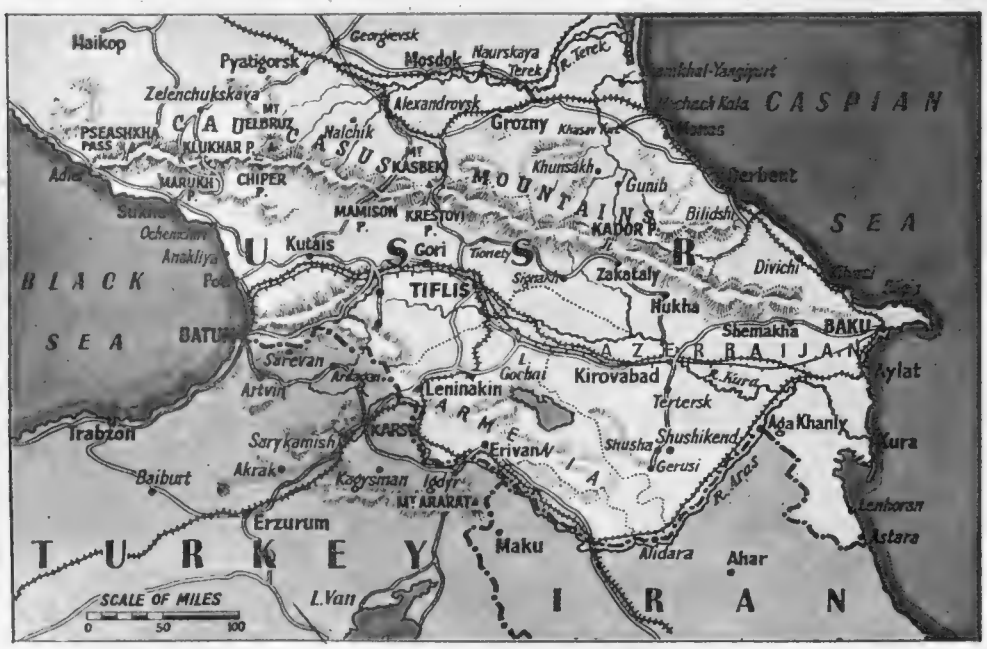
Consider Baku, situated in a vast forest, not of trees, but of oil derricks, which provide the main feature of the landscape. There you will find that everything stinks of oil; even the fleeces of the sheep are not metallically golden to the touch, but greasy with the oil of this tawny, oleaginous soil.

When I talked to Mr. Hugh Dalton, the Minister of Economic Warfare, the other day he told me that Germany would find herself short of oil not in years but in months, and from his room my mind spanned the Continent to Baku.

From Baku comes 75 per cent. of the Soviet's oil production of 30,000,000 tons—an oilfield, by the way, largely developed by British capital and British engineers. However, such is the secrecy surrounding the efforts of the Soviet economic empire that now we can only guess at her total production for export. The latest figure I can give you is that Russia exports 1,200,000 tons of oil-petroleum products.

Since oil is king in this part of the world it is necessary to record that two pipe-lines connect Baku with the port of





**IN A CAMPAIGN IN THE EASTERN BALKANS, THE STRATEGIC POSITION OF TURKEY IS AN IMMENSELY STRONG ONE:** The European portion of modern Turkey forms a bastion jutting into Bulgaria, and her frontier is co-terminous with that of Greece for some distance. Certain parts of Turkey's frontiers have been very strongly fortified, as the last war showed—at Adrianople and Lule Burgas, in particular. The main line of communication between European and Asiatic Turkey is by way of Istanbul and Scutari

*On left*—TURKEY'S FRONTIER WITH RUSSIA IN THE CAUCASUS CONSISTS OF VERY DIFFICULT COUNTRY INDEED: THE CAUCASUS MOUNTAINS WOULD BE AN IMPASSABLE BARRIER FOR ANY BIG-SCALE MILITARY OPERATIONS

*Above* — BETWEEN THE BLACK AND THE CASPIAN SEAS THE TERRITORY OF THE U.S.S.R. IS COMPOSED OF A SERIES OF SMALL AUTONOMOUS REPUBLICS LARGELY CONSISTING OF NATIVES

**THE HIGHLY STRATEGIC DARDANELLES—THE STRAITS SEPARATING EUROPEAN AND ASIATIC TURKEY, A KEY POINT IF EVER WAR SHOULD DEVELOP AGAIN IN THIS REGION:** The Dardanelles are not only the key to the Sea of Marmora but, what is vastly more important, to the Black Sea. Since the beginning of Time the importance of these Straits has been recognised; possession of the Dardanelles ensures the land route into Asia. Should the integrity of Turkey ever be attacked, she would fight to the last for these Straits

Batum on the Black Sea, making possible the transfer of Baku oil to the sea without the use of railways.

Yet when last I was in Constânza I saw some of the products of Baku being conveyed to the outer world. It was a perfect example of the Caucasus ancient and modern. A tanker had brought some thousands of tons of excellent oil from Batum to Varna on the opposite and Rumanian side of the Black Sea. The Danube had been frozen for weeks, months, causing Germany considerable heartaches because of the limited amount that could be obtained from the Rumanian wells even after the Danube had been thawed.

A huge tanker sat by the docks ready and willing to empty its cargo into the oil wagons which had been drawn up alongside. But such were the Russian ways and means, shadowed possibly by their Caucasian origin, that the oil was actually fed to the wagons pail by pail, bucket by bucket. There is oil a-plenty in Baku, and Batum is equipped to ship it abroad. This rich and vital source of war supplies for Germany is, of course, terribly vulnerable in the event of warfare in which our good ally, Turkey, might find herself. The great export port of Batum is less than 300 miles from the Turkish frontier on the Black Sea, and here I do not mention the possible supremacy of British and Turkish naval forces operating on the Black Sea with free access to the Mediterranean—and supplies—through the Dardanelles.

Furthermore, although Turkey has shown herself anxious to do nothing which might offend the Soviet, it is patent to one and all that their land frontier with Russia, facing the Caucasus, is only about 500 miles.

If—which God forbid!—war should come there, it is quite possible you might find the same situation in this mountainous region as we find to-day in Albania. For the terrain is not suitable to the highly mechanised warfare of the present, even assuming that Russia is in a position to put in the field faster and better-equipped armoured divisions than could the Turks.

Then another glance at the map, to those who have not laboured this journey, shows that for a modern bomber the oil wells of Baku are an easy target; the distance is a mere 600 miles.

E. J.

**FORMERLY KNOWN AS CONSTANTINOPLE AND THE CAPITAL OF THE TURKISH EMPIRE: NOW SHORN OF MUCH OF ITS SPLENDOUR OWING TO THE TRANSFERENCE OF THE CAPITAL TO ANKARA, BUT STILL A CITY OF GREAT SPLENDOUR AND ROMANCE**

**YUGOSLAVIA IN RELATION TO BULGARIA AND TURKEY:** It is all a riddle, this question of what would Yugoslavia do if Hitler invaded it. But the map above indicates the geographical juxtaposition of the various States which would certainly be affected strongly by any such move

**OLD AND NEW IN TURKEY'S NEW CAPITAL AT ANKARA: IN THE FOREGROUND MODERN BUILDINGS, BEHIND SOME OF THE OLDER BUILDINGS**

# THE HALF-USED WEAPON—PROPAGANDA

*The Instrument which Brought Hitler to Power, and which should Eventually Bring him and his Regime to Collapse*

By FERDINAND TUOHY

FOR some time I had impertinently visualised Mr. Churchill as a colossus splendid in the centre, but standing in need of reinforcing at either shoulder. The centre was the military conduct of the war. First and last a soldier, the Prime Minister was here in his element. As for his two shoulders, one I pictured to be Foreign Affairs, and the other, the Home Front. Each, I thought, needed stiffening.

Well now, things have been happening. An entirely new Cabinet organisation for dealing with the Home Front has been evolved, and a new Foreign Minister has been appointed.

Will these changes result in our being able very shortly to admire a completed colossus? Such must be the wish of us all. Meanwhile, I propose to fasten on to one aspect of Mr. Eden's new job and to risk boring you, for I fear the subject is propaganda.

Hateful word, befouled beyond measure in latter years! Agreed. But, spend an hour with Thesaurus or any kindred help and try to find a substitute. For once the noble English language lets us down and we are driven back on a word first used by Cardinals in Curia 319 years ago for "spreading the Faith," and thereafter pretty well off History's front page until the 1918 Allies decided to tell the Germans a few truths that were being kept from them.

The next historical use of propaganda was when Hitler selected it as the means by which the new Nationalist Socialist faith should be spread. In effect, at Nuremberg in 1936 he was able to say, "Propaganda brought us to power; it enabled us to keep power; it will render possible our conquest of the world."

And the next time propaganda hit History's front page—*is right now!*

Are we getting all we might from this "weapon of the mind," as that expert, Mr. Wickham Steed, calls it in his book, *The Fifth Arm*? If we give Mr. Eden a short while, will he deliver the goods as these were forthcoming in 1918? Can the new Foreign Secretary galvanise the same degree of successful punch from an amalgam of our current propagandist channels—the Foreign Office itself, Chatham House at Oxford, the British Council, the Ministry of Information, the B.B.C., and what Mr. Steed refers to as "the bushel-hid light of Sir Campbell Stuart," wherever that worthy happens to be?

Some people yawn at any resuscitation of the last war, holding that nothing profitable is to be recovered. Well, I hardly think it a waste of time to recapitulate how propaganda was set afoot by my seniors. Nobody paid any attention to it until Wilson's Fourteen Points first gave a policy to the Allies, and the war had by then already run four-fifths of its course. It was not until March 1918 that Lord Northcliffe set up a small Committee at Crewe House, and we awaited at that moment a terrific onslaught by the Germans, even as we do to-day.

Time was so short that "propaganda in enemy countries" had to be limited to two broad essays. To disintegrate the Austro-Hungarian armies, and to sap the morale of the German armies. Mr. Steed, whom I met on the job in the Fruilian Hills, had charge of the first, and Mr. Wells, of the second. As no broadcasting then existed, leaflets constituted the only method of effecting the undermining. From little balloons, twelve million were dropped on the Western Front alone during the ultimate four months—although before then Mr. Wells had departed because one of his assistants had been barred as the son of an alien. (*Plus ça change . . .!*)

Wells, in a summary accepted by Balfour, believed in giving the Germans something to fear and also something to hope for. We should emphasise that what happened to them depended a good deal upon themselves. We should always cling to the truth and not announce war aims that we did not intend to ensue.

Our leaflets depicted growing American aid and expanding inroads on the German front—things the German General Staff kept from the troops. On the reverse, extracts were printed of articles published in the German Press but not allowed into the German front line.

This form of propaganda succeeded, as Ludendorff and Hitler were bitterly to confess, and I do not, therefore, join the scoffers now that Mr. Wells has returned from America announcing, "I hope now to take up a good deal of journalistic work in this country, because I think Britain is still not handling the European situation with any clear-mindedness and intelligence." Mr. Wells no doubt realises, as many others do, what a far greater field for undermining and for propaganda presents itself in January 1941.

Mr. Steed's leaflet undermining of the Ramshackle Empire promised independence to Czechs, Slovaks, Poles, Serbs, Croats, Rumanians, *é patati*. Badoglio, who was Chief of Staff, notably pressed it, and an eloquent effect, which I can vouch for, was the necessity for special "desertion posts" along the front. But when our propagandists sought to turn their hands to a third and final task, peace aims, they received a wicked smack. Lloyd George and Northcliffe mutually informed one another of their dictatorial bent and "Crewe House" ceased to exist on Armistice Day.

Has our propaganda yet done anything in this war to equal what it accomplished in the last? There is no use in replying that we haven't had the victories and that without victories propaganda is merely waste of time; that the only useful propaganda is victory itself, and so forth. Such are lazy-minded assertions.

Our opportunities, confined to two in 1918, appear now to have expanded to six or seven. We can (a) undermine the millions of homesick Nazi troops in the occupied territories; (b) disseminate what I shall call "liberty-guidance" to the hundred million people of the Captive States; (c) address ourselves in particular drill-sergeant style to the civil population in Germany; (d) develop direct approach to the Italians, as initiated by Mr. Churchill; (e) prepare a different dish again for Austria, Vienna and the Danube; (f) maintain a sustained, truthful version of events for everyone, friend and foe; (g) when the time comes, go all out on peace aims.

The best thing on our propaganda so far has been the broadcasting in foreign languages. The worst, the inaugural leaflet campaign over Germany, a year and more ago. The R.A.F. ought never to have been asked to carry such stodgy stuff, which had the contrary effect to that intended, and will have to be lived down accordingly.

Leaflets should be used to press home immediately a speech like Mr. Churchill's to Italy before the Ansaldos can distort its contents. Such leaflets, giving a condensed version, should leave London on the night a speech is delivered. Get there first. Then there'll be no call to indulge in later undignified argument. Propaganda requires to be applied here and there with a bang; and always with a clear-cut idea, preferably localised, behind it. Heaven forbid that we should start deluging the Continent with leaflets or plugging it with all-round-the-clock broadcasting. Pungently to press home specific points remains the essence of the game.

For instance, listening in to the new evening broadcasts to the German occupying troops (whose facilities for reception it would be interesting to know), I have felt that everything from America tending to make the Germans brood should be included. All the help we are infallibly to receive, "Yanks-are-coming" stuff to the hilt. Harping on U.S. help broke the morale of the last German army, and I remain convinced that nothing of its kind depresses an average young war-waging European more than to ponder that he has the New World against him.

We want to depress these fine fellows strewn right across Europe from North Cape to Spain, and from Brest to Constantza, and another way is to put in map form and push over to them (as was done in 1918) how all the tens of millions of Europeans which their Führer has enslaved will hate them whatever the outcome of the war.

We have a great chance to try to rot the German occupying troops fore and aft: by our own broadcasts, and by means of advice addressed to the Captive States themselves.

In contacting these we shall not miss the opportunity of keeping them of good heart. In which respect, I quote from Mr. Steed, who was good enough to grant me a few minutes of his time:—

> "A Fifth Arm, well fashioned and doughtily wielded, would instantly turn to account every success and show its true meaning for others as well as for ourselves. It should never be forgotten that other nations are not at all interested to hear what good people we are or how excellent our intentions may be. They are interested in knowing what is going to happen to themselves."

Hear, hear! But, I would add, we should not miss the chance of informing Europe's hundred million captives how they can help our liberating efforts in their own regard by adopting certain attitudes towards the conqueror. This is something quite new in propaganda, which I have called "liberty-guidance." It can be addressed to French, Belgians, Dutch, Danes, Norwegians, Poles, Czechs, even Austrians. These populations should be constantly advised as to what they should *not* do in relation to the Nazis. They should be told how they can help us and bring their own freedom nearer by not working in arms factories, especially not in submarine or aircraft works; by making everything as difficult as possible for the invader; by rendering life for him as damp and depressing as may be (the women greatly aiding here); by adopting a policy of non-consorting and non-collaboration.

We should bear in mind that in the last war we had to consult lots of Allies over all questions of propagandist nature, but that to-day the need for such consultation has been reduced very considerably as we seek to liberate most of Europe.

So on with the works, Mr. Eden! The brains are there, and the will. As for the cost—Crewe House's total bill last time was £70,000!

## THE MEN WHO TELL THE WORLD . . .

Mr. Henry Martin, editor-in-chief of the Press Association, with Mr. A. Kudo, London correspondent of the Tokyo *Nichi-Nichi*

Mr. H. J. Sargint, of the North American Newspaper Alliance

Mr. F. Rediasis, London representative of the Greek Press Agency

Dr. H. W. Egli, of the *Neue Zuercher Zeitung* of Switzerland

Dr. K. G. Bolander, of the *Svenska Dagbladet* of Sweden

Mr. A. Reval, of the *Pesterlloyd*, Hungary

Mr. A. Aarl, of the *Helsingin Sanomat* of Finland

# A NEW BRITISH BOMBER APPEARS

First Pictures of the new Blackburn BOTHA I., now in Service with the R.A.F.

*—Official Air Ministry Photographs*

***Above, and on right*—TWO VIEWS OF THE NEW BOMBER ACTUALLY IN FLIGHT OVER BRITAIN** Note in both these pictures the curious and interesting shape of the power-driven turret at the rear

The Blackburn Company—which produces the Skua and Roc aircraft of the Fleet Air Arm—have now produced a new type of bomber which is actually in service with the R.A.F. It is a twin-engined aircraft, and has been designed to carry torpedoes as well as bombs; it will undoubtedly prove even more deadly than the famous Swordfish, which are at present the main aircraft used by the Fleet Air Arm. The two engines are Bristol Pegasus of 890 h.p. each; the size is very great, but what this is is naturally not at the moment. The span is 59 ft., length is 53 ft. and height 18 ft. 3 ins. The machine somewhat similar to the Wellington in appearance, and its general appearance would seem to possess very good flying characteristics. The new aircraft is only one of a number of new types now coming into production for the R.A.F., others which have been mentioned within the past few weeks are the new Hawker Tornado, the Whirlwind and the Short Stirling bomber—to say nothing of the many American aircraft which are now coming in a steady flow across the Atlantic. Some of the latter, especially the new Lockheeds, are actually being flown to this country by specially qualified pilots

**THE NOSE OF THE NEW BOTHA:** The window on the pilot's right slides back; below—right in the nose—is the bomb-aimer's position, with another "bay window" between him and the pilot

***On right*—A FLIGHT OF BOTHAS IN FORMATION:** Note the shape of the wings—which seem to be of good area and thus capable of lifting very useful loads

AIR COMMENTARY—By C. G. GREY (Founder of "The Aeroplane")

# LOOKING FORWARD to the GOOD THINGS of 1941 . . .

*"The Invasion of Britain" is One of Them; And a Saner View of Affairs in Eire is Another. With a Few Comments on Current Topics Connected with Air Activities*

ALL these Jonahs and Jeremiahs and Cassandras who keep on preaching to us about the awful position to-day of the British nation, and consequently of the British Empire, make me tired. In their well-meant attempts to get our people, especially the English, to take the war seriously, they spread an atmosphere of gloom which might have frightful and frightening effects if the bulk of our population were not made up of undefeatable, stupid, independent, humorous Anglo-Saxons. The Celtic fringe may become excited or gloomy. The alien admixture may be panic-stricken. But the Angles and the Saxons and the Jutes and the Scandinavians who are the mass of the English folk, carry on at their jobs. They grow angry with the Germans when they are bombed, and angry with the Governments of the past and present for letting them be bombed. But nothing will make them gloomy or depressed.

There are three things which nobody can stop the essential Englishman from doing: joking in all its grades, grousing, and "winning" things. Could anybody but an Englishman have advertised in *The Times* "Personal" column, as an officer did lately, the number of his prisoners-of-war camp in Germany as "Change of Address"? And any foreigner who did not know the Navy and the Air Force, and found himself in close contact with either, might think that they spend more time inventing and telling funny, if grim, stories than in fighting the enemy.

My experience is that the commercial middle-classes incline to gloom far more than the people in the workshops or the field-workers, or (naturally) the Fighting Forces. Just when the Germans had broken through to Calais and Boulogne, I was dining at a big hotel in the North, with some rather senior R.A.F. officers. They were comparing stories of the last war with stories of this, and part of the time we were discussing what we should do with Germany and Central Europe when we had won. And the apparent levity at our table seemed quite to shock some of the other diners, who glowered at us with disapproval.

Sir Walter Layton, who has come to the fore during recent weeks owing to the publication of his views on the American efforts to aid Britain, comes back and tells us that: "The weight of the United States effort is not to be expected next spring, but will begin to mature in the late summer. People should not think that there is going to be a flood of armaments from America this year." Well, "What of it?" as George Robey used to ask. Nobody in his senses thought otherwise, and the others don't matter.

We have been well on top of the German Air Force from the start—except in some lamentably foolish expeditions early in the war, which cannot be discussed now, but certainly will be later on. All these new fighter and bomber types which are coming along—which an American aviation paper pretended to describe in some detail last November—and sundry others still newer, ought to put us farther on top in the future, but the U.S. aircraft industry will have to move much faster than it has moved so far if it is to produce, not "in the late summer" this year, but in 1942 or 1943, anything as good as the latest machines which already exist in this country.

In the last war, troops and sailors and airmen from the U.S.A. fought here in Europe, and fought jolly well, too. And the United States sent us vast quantities of war material—some of it good, and a lot not.

In this war, if the United States sends us usable material, but no men—except those good sportsmen who come over as volunteer near-Canadians, or as straight United States citizens (such as the too-much-advertised "Eagle Squadron")—then that is a square deal. We defend the United States on this side of the Atlantic, and the United States pays us for doing it. And at the finish they will owe us more than they can ever repay. So everybody ought to be pleased.

Then General Smuts tells us gloomily that we must expect invasion in 1941—and must not regard it lightly. Now that is just the thing to which the R.A.F. and the Army—and, queerly enough, most of the civilian population, especially the Home Guard—have been looking forward, almost as if it were a New Year treat. So far from needing a warning, the stupid, humorous, undefeatable English will be greatly disappointed if the Germans do not try to invade us.

You see, the R.A.F. had a go at an invasion fleet in being, on September 16, or thereabouts. And the Coastal Command and the Bomber Command have been blasting the invasion ports ever since. But the Army, some two or three millions of it—including, as an R.A.F. friend of mine says, "lots of Colonials and Polonials"—are itching for a chucking-out exercise, and think that the R.A.F. have had more than a fair share of the war. The Home Guard will feel that they have not justified their existence if nobody invades them.

And all the pupils at all the Flying Training schools, who are afraid that the war will end before they are allowed to go overseas, and all the middle-aged instructors, who will not go overseas anyhow, will be so disappointed if they never have a chance of taking out their local bomber-trainers with live bombs in their racks and dropping a few into the flat-boats. And the same classes of people from the Fighter Schools will be similarly disappointed.

Even the bell-ringers all over the country are longing to give an exhibition of campanology again in honour of an invasion. So "Slim Jannie"—as the Cape Dutch call General Smuts—need hardly have trouble to *warn* us against a happening to which most of the English are looking forward with interest and many with pleasure.

Talking of invasion brings up the bombing of Ireland. Intelligent writers have been wondering why the Huns bombed Eireann, seeing that they have a Minister in Dubh Linn (commonly called Dublin and meaning a dark pool, or dirty hole), and lots of consuls and things about the country which can keep Berlin in touch with what is going on.

At a guess, I should say that these advantages have been outweighed in the minds of the German Staff by seeing, after a long time, that 2,000,000 people, more or less, have been busy, directly or indirectly, for sixteen months of war, raising cattle and sheep and pigs and butter and bacon and oats and barley for the feeding of this country. All that time the Irish railways have been running and the docks have been working unbombed. The towns have been all lit up, and, if Dublin's lights did give the Hun navigators a "fix" for Liverpool, its transport workers have been free to work in full light, and not in a black-out.

Ireland as a neutral, ridiculous though it has been as a member of the British Commonwealth of Nations, has been very useful to us. Ireland in the war on our side would be no more useful than it is now, except for those bases at Berehaven and Buncrana (Bantry Bay and Lough Swilly), and only by that much less useful to Germany. But Ireland bombed regularly might find transport more difficult.

The idea of Germany invading Ireland is fantastic unless some of the anti-Devalera Irish have persuaded the German High Command that a German force would be supported, if it landed, by Irish volunteers—much as that rather nice French Revolutionary General Lazare Hoche was persuaded to land in Bantry (or was it Blacksod) Bay, and had to leave most of his force behind as prisoners when he went back to France.

The writer of a brilliant book on the Irish Feniar times—a member of the Clan-na-Gael, who was our chief spy—began it thus: "Wherever two or three Irishmen are gathered together in the name of conspiracy, there is the informer in the midst of them." Which is why Irish conspiracies always fail.

Also, in spite of all their patriotic songs—"Let Erin Remember," "The Minstrel Boy," "The Wearing of the Green," and so forth—somebody always knows which side pays best. To Sidney Smith is ascribed the bitter epigram, quoted in a B.B.C. playlet recently, that Tom Moore (*circa* 1810), the author of so many pretty little Irish flirt-songs (hardly love-songs), "had put the wild harp of Erin into a musical snuff-box," and that is true of most things in Ireland, except for a few Sinn Fein fanatics who are loyal to their misguided principles and a nuisance to the British Isles and Commonwealth of Nations.

So, if the Germans try to invade Ireland on the invitation of some of the said fanatics, and supposing that they get there, they will find themselves as badly let down as was Lazare Hoche—and most of Ireland's own leaders, such as Charles Stewart Parnell.

Talking about when the war ends—Mr. Herbert Morrison, sad to say, still seems to have a hankering after the League of Nations. At a lunch of the National Defence Public Interest Committee, whatever that may be, he said that he looked forward to "a co-operative system controlled by an international

**AIR MARSHAL A. G. R. GARROD, THE MEMBER OF THE AIR COUNCIL IN CHARGE OF TRAINING**
The scope of his Department will now be considerably increased by the introduction of the new Training Scheme for the R.A.F.

*Drawing by Roland Davies*

**A FIGHTER PILOT'S ADVENTURES DURING A FLIGHT UNDER DIFFICULT WEATHER CONDITIONS**

These two illustrations have been prepared to amplify a recent Air Ministry story which seems particularly appropriate as illustrating some of the difficulties and dangers of flying in wintry conditions. "I was having some difficulty in seeing out of my cockpit," explained the pilot. "My windscreen was covered with a thick layer of ice which was very difficult to rub off. I made several criss-crosses on the ice, to get some sort of view while I continued in my dive. When I pulled away I turned back towards a Ju. 87. I gave him a short burst and saw the bullets disappear into the fuselage and pieces fly off. The Junkers shivered a little, but continued to fly." A moment later the pilot was wounded. "I turned my aircraft right round and headed straight for my attacker. I gave him a five-second burst and black smoke started to pour out as he turned away. I put several more short bursts into him as he went away from me but I did not see him come down. By now the fight was well out over the Thames Estuary and I had only about eight gallons of petrol left. Flying with one hand, I headed for the coast and an aerodrome just inland. I could not make it and had to do a belly landing in a field with my wheels up"

**EVERY YOUNG MAN MAY NOW BE A PILOT—DISCUSSING THE NEW TRAINING SCHEME FOR THE R.A.F.**

Sir Archibald , Secretary of State for Air, has just announced a new pre-entry Training and Education Sch r the R.A.F.: by this means every young man in Britain can have the chance of becoming a or a member of an air crew. Under this nation-wide scheme, facilities will be provided t s between the ages of sixteen and eighteen for general education and Service training, prepa y to their entering the Royal Air Force or the Fleet Air Arm. The formation of several new versity Air Squadrons, and the lowering of the age of acceptance for air crews to 17½ years, a lso announced. The picture above shows the Secretary of State discussing the details of his new Air Training Scheme with members of his Department: from left to right are seen the following—Wing Commander Lord Nigel Douglas Hamilton (of the Department of the Air Member for Training); Captain Harold Balfour, M.C., M.P., Under Secretary of State for Air; the Rt. Hon. Sir Archibald Sinclair, C.M.G., M.P.; Air Marshal A. G. R. Garrod, C.B., M.C., D.F.C. (Member of the Air Council for Training); Mr. J. F. Wolfenden (Headmaster of Uppingham School and Director of Pre-Entry Training at the Air Ministry); and Air Commodore J. A. Chamier, C.B., C.M.G., D.S.O. (Commandant of the Air Training Corps)

police force, hich would discharge for Europe, and the world, functions similar to those of the police in this coun y in maintaining order among the civil population."

That would mean that the Air Officer Commanding-in-Chief the nternational Air Force would be the greatest dic or the world has known. Has Mr. Morrison ever eard of the Prætorian Guard in Rome, which made nd unmade Emperors; or of the Sultan of Turkey's issaries, who changed Sultans as they willed?

Let me c reat Mr. Morrison and all my readers to read Kipling's *As Easy as A B C*, in one of his later volun of short stories. It shows how the "Aerial Bo of Control" ran the Earth, and how the people t up with Democracy and Demagogues, liked being overned, instead of having to bother about gove nment. That is the answer to government by a Co-operative Air Force.

Reverting to our Jeremiahs and Cassandras, one of our troubles is that we are still obsessed by the *defence* idea. We *will* not realise that defence is the first stage of defeat. Even Mr. Churchill, for all his aggressiveness, is content to be called Minister for Defence. What about having a Minister for Offence, and getting on with the job?

**VARIORUM.**—There are so many things which call for comment that I can only deal with a lot of them briefly.

Congratulations to Mr. C. D. Howe, Canada's Minister for Defence (not Offence), on surviving being torpedoed. My friends in the Royal Canadian Air Force say that he is a grand chap, and largely responsible for the success of the British Commonwealth Air Training Plan.

Apropos the R.C.A.F. Isn't Canada a trifle too democratic? Not only do its politicians prevent one another from accepting titles and honours, but they forbid their fighting men to accept decorations. A Canadian who comes over independently and joins the R.A.F. can take anything from a K.C.B. to an Air Force Medal, but an officer in the R.C.A.F. may not have a D.F.C., nor may a man have a Distinguished Flying Medal. A bit narrow-minded, isn't it?

And another thing about medals. The Air Minister announced lately that officers and men of the R.A.F. who qualified for the General Service Medal and "Palestine" clasp by serving between April 19, 1936, and September 3, 1939, in Palestine, will not get their medals till the end of *this* war. But, generously, they offer to let them have the appropriate ribbon to wear.

Somebody asked me the other day how better off we will be when we have knocked Italy out of the war. That depends on the terms of surrender. We might use Italian aerodromes as bases from which to bomb Germany. But in any case, we shall have more ships and Fleet Air Arm aeroplanes and Coastal Command flying-boats for Transatlantic escorts, and more aeroplanes of all sorts for the big attack on Germany.

Which leads naturally to Mr. Churchill's remark: "The last thing we want is inter-Service controversy." He was referring to the demands of some old Navy men that the Admiralty should take over the Coastal Command, R.A.F. But the question of the Army's demand for complete ownership of the Army Co-operation branch has also to be considered.

Captain Norman MacMillan, M.C. (late R.F.C. and R.A.F.), in *Flight*, asks: "How much are the demands of the two older Services upon sections of the still independent R.A.F. causing a diminution of the Air Blockade of Germany? To what degree will they diminish the striking power of the R.A.F. in the future?

He wants a "Blockade Command" in the R.A.F., level with Fighter, Bomber, Coastal, Army Co-operation, Training and other Commands. Not a bad idea: an Offence Command, in fact. I am all for letting the Navy and the Army have their own Air Branches, and as many aeroplanes and men as they can afford.

Honour where due.—The R.A.F. Benevolent Fund, on behalf of which Lord Trenchard spoke so effectively on January 5, was based on the Flying Services Comforts Fund, which did much good work in 1915-18. That in turn was formed by amalgamating two earlier Funds, one for the Royal Flying Corps, and one for the Royal Naval Air Service. The R.N.A.S. Comforts Fund was started first by Mrs. Murray Sueter, wife of Captain Murray Sueter Chief of the Air Department, Admiralty. Lady Sueter, wife of Admiral Sir Murray Sueter, M.P., deserves credit for being the mother of the present vast organisation.

I had an example of the stupidity of German propaganda the other evening. Fishing round the sky for some decent music with my radio, I happened on Mr. Joyce, commonly known as "Lord Haw-Haw." He was telling the world that the R.A.F. had ordered tens of thousands of armoured flying-suits from the United States, because our pilots are afraid to tackle the new German fighters. He suggested that the amount of fear might be measured by the fact that this armoured suit weighs 120 lb., and our chaps were ready to sacrifice that much petrol and ammunition for their own safety. All that was based on another silly paragraph in our popular papers boosting another American freak gadget.

I wonder how much the armour and the bullet-proof wind-shield on a Messerschmitt 110 or a Junkers 88 weighs, or on a Hurricane or Spitfire? Getting on for 100 lb., I should think.

Another of the silly pars which got away with itself quite lately was that about the new invisible German aeroplane, made of transparent material We had that in the last war. Then, as now the newspapers forgot that one cannot make transparent motors and pilots and guns and ammunition

Actually, a dead white aeroplane is almost invisible in a bright sky when high up, until it turns and catches the sun. Then it gleams like a heliograph and so will any aeroplane with a varnished surface Night bombers are painted in dark colours, with a matt surface, to prevent them from reflecting the beams of searchlights. A German Air Force officer told me in 1938 that the matt paint on a Heinkel bomber cut between 5 and 10 miles an hour off the speed

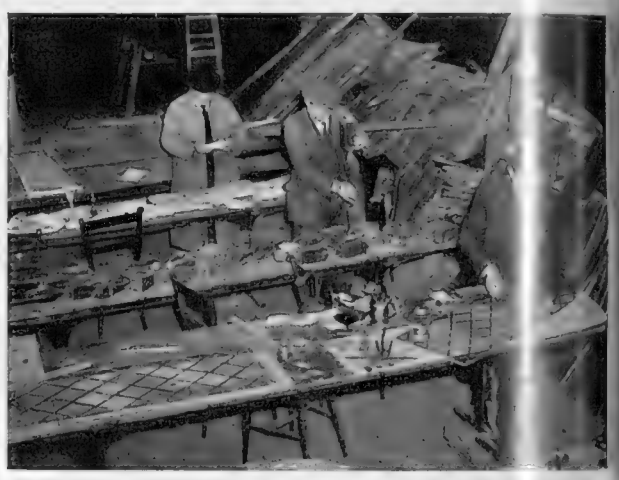
# AFTER THE AIR RAIDS

BOMB DAMAGE AT THE OVAL: THE PRESENT ASPECT OF THE SURREY TAVERN, ADJACENT TO THE FAMOUS CRICKET GROUND AND HEADQUARTERS OF THE SURREY COUNTY CRICKET CLUB

THE PICTURESQUE OLD TEMPLE IN CENTRAL LONDON, WHERE SCORES OF BARRISTERS' CHAMBERS HAVE BEEN WRECKED BY BOMBS

IN ONE OF THE ROOMS OF THE UPPER SCHOOL AT ETO
PILING TOGETHER THE BROKEN HISTORIC PANELS

AS FAR AS POSSIBLE, ALL THE PANELS CONTAINING T E NAMES
SCHOLARS ARE BEING REPAIRED AND WILL G UP AGA



A GENERAL VIEW OF THE "REPAIR SHOP" AT ETON: Altho
it will be impossible to repair the portion of Eton Coll ge damaged
bombs before the School reassembles for the Lent Half, every effort
being made to complete the salvage operations and to make the Colle
wing habitable again. Care is being taken to save from the debris
much of the panelling, rails and stairs as possible. On the panelli
are the carved names of famous Etonian

THE "INFORMATION BUREAU" IN A DAMAGED CITY STREET: A giant plane-tree, one of the few in London, in Wood Street, off Cheapside, is being used as a primitive Information Bureau, following on the fire "blitz." Firms that have removed to temporary premises suspend notices from a rope running along the railings which surround the tree

SALE TIME IN OXFORD STREET—BOMBS OR NOT! It's sale time in London's West End and despite the bombers, all the stores have been crowded with shoppers. Apparently it takes more than a "blitz" to stop the women from carrying on with their usual programme. Here is a crowded scene round the pay-desk at a big Store

# THE LIGHTER SIDE

**THE PANTOMIME AT THE LONDON COLISEUM IS STANDING UP WELL TO THE "BLITZ":** Here is Miss Jean Colin playing her part in the title-role in Central London's only pantomime of this winter. Plans are being made to extend the run of this enterprising show up to Easter

**TWO OF THE PRINCIPALS AT THE COLISEUM:** Mr. Jerry Verno as Wishee Washee and Mr. Sutherland Felce (on right) as Abanazar the Magician, who provide the humour in this year's pantomime

**HEROINES O[F] THE AIR RAIDS FILMED:** The work of the gallant women who drive tea-cars to the bombed areas at the [scene] of the raids and carry on in the Canteens for the Services is being filmed for the Y.M.C.A. for world [pre]sentation. Here is Lady Blane (Hon. Secretary of the National Women's Auxiliary of the Y.M.C.A., who superint[ends] the Services Hostel at Gatti's, in the Strand) going over the script with Mr. Jay Lewis, the film's [dire]ctor. Voluntary workers are seen in the background waiting to appear before the camera

**ENGLAND'S ONLY CIRCUS THIS WINTER:** This picture comes from Belle Vue, Manchester, and shows two of the "Canadian Wonders" presenting their show in the circus there—the only one in England just now!

**THE BOY SCOUTS' "GANG SHOW" GIVE 400 PERFORMANCES TO THE R.A.F.:** Since their evacuation from France, the Boy Scout "Gang Show," the first Concert Party to play to the B.E.F. overseas, have travelled nearly 600 miles a week to give shows to the R.A.F., whose only official Concert Party they are. The company includes a former tailor, stockbroker, theatrical publicity agent, and two professional actors; the producer is Ralph Reader, now a pilot officer (in the centre front of the above group)

**LONDON'S PANTOMIME "WIDOW" SLEEPS IN HER DRESSING-ROOM:** Miss Iris Sadler, Widow Twankey in "Aladdin," at the London Coliseum, sleeps in her dressing-room at the theatre. She is here seen with a morning cup of tea made for her by one of the fire-watchers

The World of Books—By Vernon Fane

# A CLASSIC, SATIRE, WAR AND TRAVEL

*Thomas Hardy Illustrated; The Craziness of Thurber; How France Fell; Was Columbus a Jew?; Another Book on Ballet*

PRAISE be to whoever thought of celebrating the centenary of Thomas Hardy's birth by an edition of UNDER THE GREENWOOD TREE; OR THE MELLSTOCK QUIRE, illustrated by Claire Leighton (Macmillan. 12s. 6d.). I should like to think it was Miss Leighton herself.

The decision to illustrate a beloved classic is not an easy one to take. All the people who love it will have their own mind's view of its characters, and the composition of its scenes will, to them, be well defined. The happiest marriages of books and illustrators have therefore been consummated in the author's lifetime.

In this case, the bringing together of Thomas Hardy's pastoral symphony and the art of Claire Leighton seems so natural as to be obvious. The most English of all the counties can yield for her all the subtleties of light and shade, and the breadth and depth of composition for which her wood engravings are so justly famous.

The story, too, reveals Hardy at his poetic best. The mood is tranquil, reflective; almost impersonal. It is indeed a symphony in four seasons, and most beautifully does Miss Leighton adorn it with exquisite shadings.

I am no particular admirer of the art of wood-engraving, which is too often seen at its heavy-handed worst particularly in bucolic subjects. The more reason then, to be completely captivated by a lightness of touch which gives life and colour to that which owes nothing in technique to anything but light and shade.

The printer is so delighted with the book that he adds his own proud colophon. I would like to add a word of praise for the anonymous designer of the book. The type and layout marry the illustrations perfectly; the title-page is a lovely piece of reticence, and the binding case is something upon which the eye will delight to rest for many a long day.

Mr. James Thurber is one of those rare persons who writes as well—and madly—as he draws, and vice versa. Mr. Thurber is as crazy as a Marx Brother, and, consequently, not everybody's cup of tea. You are either a Marx Brotherist or you are not. Both schools are sorry for each other; and are entitled to be.

But perhaps I am not being fair. I doubt if either Messrs. Groucho, Chico or Harpo would claim to be a satirist. Nor is Mr. Thurber a clown. If he deliberately fosters the impression that he is nuts, he does it with no more make-up than an economy of line or the twist of a phrase on the typewriter.

FABLES FOR OUR TIME (Hamish Hamilton. 7s. 6d.) is proof once more that Mr. Thurber is completely nuts. Nothing could be more wildly fantastic than the story of *The Seal Who Became Famous*, which winds up with the moral: "Whom God has equipped with flippers should not monkey around with zippers." There are three seals in the picture illustrating this piece of profundity. The expressions on their faces should be seen to be believed. Nothing like them ever existed outside a London club.

Then there is *The Stork Who Married a Dumb Wife*, who turned out to be not so dumb that she called him a phoney obstetrician when he came home one day with five blonde quintuplets—and crowned him with a chimney brick. Or the sad story of *The Shrike and the Chipmunks*, which carries the moral "early to rise and early to bed, makes a male healthy and wealthy and dead."

And when Thurber gets going on such old favourites as "Excelsior," "The Sands o' Dee," "Lochinvar," "Locksley Hall," and "Curfew Must Not Ring To-night," the result is a phantasmagoria of crazy hilarity.

Mr. Thurber can put more human idiocy into a single line than any other draughtsman I know. Long may he pursue his crazy art. It is comforting to realise that, in the words of the modern sage, we are all of us slightly sane.

Nor is it a far cry from considerations of sanity to a note on THE ROAD TO BORDEAUX, by C. Denis Freeman and Douglas Cooper (Cresset Press. 8s. 6d.). That such things could be endured in a civilised world, and in the most civilised country in the world, is a grim and terrible comment on human behaviour.

The story begins in Paris in the spring. Paris in the spring! Magnolias in bloom in the gardens of the Avenue Gabriel; chestnuts out in the Bois. The café terraces were full; *Cyrano* at the Comédie Française, with decor by Bérard; a comedy by Cocteau at the Bouffes; racing at Longchamps. But the Ritz bar was full of uniforms.

The armies sat behind the Maginot Line; the *sitzkrieg* was pursuing its uneasy course. Then: "Hitler made the obvious move, and still everyone was surprised. . . . Almost immediately the streets of Paris filled with refugees arriving in heavily loaded cars, and after a few days they appeared in their thousands by car, train and boat, bringing with them an amazing collection of tales of fantasy and horror. Their plight was terrible. . . ." In a very short time the authors were preparing to join the stream of refugees; out of Paris this time—the Road to Bordeaux.

Mr. Freeman and Mr. Cooper had enlisted as ambulance drivers with the French Army. When the line broke at Sedan, they were in the fighting round Soissons. Then came the retreat; a tale of horror and heroism, of bombings and burnings and screaming death descending on such places as Sens, Joigny and Auxerre. Of refugees packing the roads in their weary flight, being murdered at intervals from the air. Of bewildered soldiers; of a broken army wandering aimlessly against the tide. A terrible, harrowing and horrible story.

At Bordeaux they boarded a British destroyer, being forced to leave their two stout-hearted Dutch comrades behind. Nor were their troubles at an end when they arrived in England. Events had moved very fast. The full implications of the French collapse were not properly understood.

Here, from two eye-witnesses, is a story of the greatest military defeat in history. It is written with sympathy, understanding and with graphic detail. It contains a strong plea for temperate judgment on this side of the Channel. Over and over again they insist that the French *people* were, and are, sound; and with the people they associate the army. The glory that was France lies humbled at the feet of the conqueror. They believe she will rise again. In that hour we shall rejoice. Our judgment, now, needs the steady corrective of such a record as this.

Miss Rosita Forbes has a prodigious appetite for travel, and has made a habit of knowing, and writing about, famous men. She has been to most of the out-of-the-way places in the world, but none has delighted her more than the Bahama Islands. "Isles of June," they call them down in those parts; or did, before they became an American playground. As for famous men, none has impressed her more than Christopher Columbus. The America he first sighted was the island of San Salvador—one of the Bahamas.

THE PRODIGIOUS CARIBBEAN (Cassell. 15s.) bears the sub-title, "Columbus to Roosevelt." "The American age," says the publisher, "has yet to begin." "It was predicted when Columbus imagined 'a narrow cut joining the oceans East and West,' and when Drake realised that 'from the waist of the world' a Great Power could hold the Pacific and Atlantic. President Roosevelt has accepted the 'Lord High Admiralty,' the Jew Colon, astute politician, abominable governor, Crusader and pawnbroker of Visions. So the Viceroyalty of 'seas, islands, oceans and a mainland,' whose prodigious wealth is as important to the socialism of the future as to the tyrannies of ancient Spain and Western Germany, goes to the people whom the greatest genius and the greatest failure of the West visualised as 'dying only when they are weary of living.'"

Which is a fair enough statement of what Mrs. Forbes' book is about. Perhaps the "Jew Colon" needs some explanation. Here it is in the first paragraph.

"After Jerusalem, San Salvador—landfall of Columbus—has had the greatest effect on world history. Christ was a Jew. So in all probability was that 'very magnificent lord,' Christobal Colon. The hill city of Palestine therefore shares some quality with the beach which saw the first Christian Mass west of the Atlantic."

From the march of time Mrs. Forbes draws upon history and upon analagous dreams of expansion and conquest. It is a colourful cavalcade, all marching towards, and being focused upon, those fronded isles set in an opal sea. She has a prodigious story to tell and a prodigious moral to be drawn from it. Whether or not the thesis stands up to the sweep of its treatment is no matter. Superlatives are not out of place in the description of so much beauty, so many stories of human strife on the grandest scale, so much that is pregnant with the very essence of adventure.

"The islands, which look as if they had been washed and wrung and hung out to dry through age after age of sunlit peace, have led as stormy a history as any land chartered by commerce or adventure."

Yes, theirs has been a strange destiny. Even to-day are they not governed by one who once ruled the mighty British Empire?

Mr. Cyril W. Beaumont is a recognised authority on Ballet. The list of his works on the theory, subject and history of ballet dancing is a formidable one. THE DIAGHILEV BALLET IN LONDON (Putnam. 10s. 6d.) is a book of reminiscence. "It differs," he says, "from all my other works relating to ballet in that it is the most intimate and the most personal."

Mr. Beaumont was a personal friend of Diaghilev's, and knew all the most famous members of the ballet personally, as well as such great figures as Grigoriev, Cecchetti and Barocchi. With the exception of their first two visits in 1911, he saw every season of the Russian Ballet in London until their final appearance in 1929.

It is a book to savour with much nostalgic pleasure and with the added profit of an expert's estimate of the art of each individual under review. For one reader at least there is an unforgettable picture of the great Nijinski on and off the stage.

## A NOTE ON THE CORVETTE

THE name corvette was revived in the early days of this war for the ships which were built to replace the "Herbaceous Border" sloops of the late war, and which have inherited their flower names. When the first were ordered under the pre-war estimates they were described as whalers.

Although not as fast as the cruisers or destroyers, the corvettes can do a great deal of their work for a very small proportion of their cost, and are armed with quick-firing and anti-aircraft guns as well as depth-charges. Their roll is very quick and wants a great deal of getting accustomed to, but they are excellent sea boats and can keep their speed in heavy weather, which is a matter of great importance in convoying big merchant ships; they have good bunker capacity and can undertake long passages on such work.

The name corvette was borrowed from the French service in the latter part of the eighteenth century to denote a medium-sized cruising vessel, between a sloop and a frigate, to which it was possible to appoint a post captain, generally a courtier, with the appropriate allowances. Then the name was used with more precision for a ship with all her guns on one deck without quarter-deck or poop, but when this was so interpreted that the name was given to big ironclads in the '60's and '70's of last century, it was abandoned and was not revived until the present ships were built.

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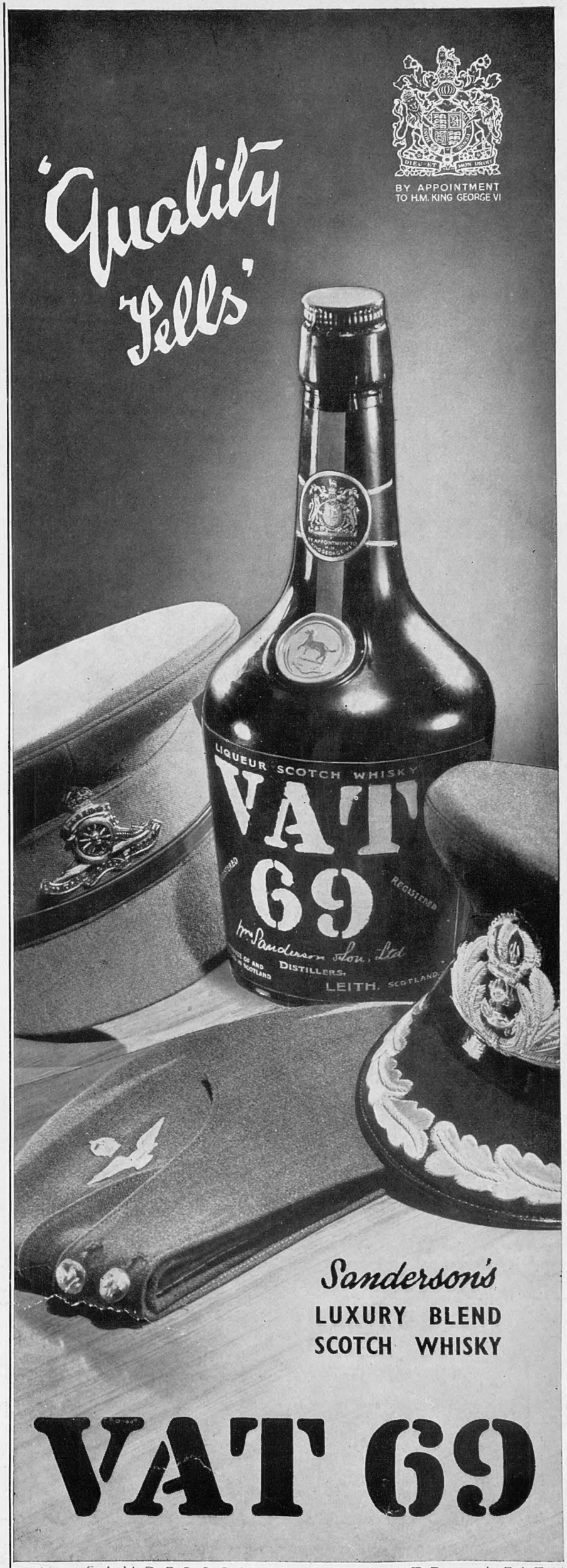


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# In Quest of Good Hotels

By ASHLEY COURTENAY

EACH day the long-distance expresses draw into Paddington, Euston and King's Cross and discharge their human cargo, in war-time as in peace.

And each day there are incomings and outgoings from London's hotels, which carry on in spite of H.E. bombs and incendiaries. True, some have been damaged by the recent "blitz," but few have had to close their doors, whilst most have adapted themselves to this uncivilised era and offer shelter to travellers in a double sense.

London hotels have been remiss in not advertising more the war-time service they can offer, for I am continually being asked whether this or that hotel is open, and what hotels I would recommend, having regard to safety and accessibility.

In considering where to stay in London in these unusual days, there is no reason why one should not put up at one's particular favourite, for, excepting after a heavy raid, there is little dislocation of traffic, and even then it is surprising how speedily normal public services are resumed.

But of London's visiting populace there is a goodly proportion who can be classed as "occasionals": that is, those who only come to town on essential pursuits. Legal, medical and family affairs perhaps head the list, but, in addition, there is the retired business man who still maintains his contact with the City by reason of his seat on the board.

It is such people who have no particular hotel. They were wanderers in peace-time. They booked a room where there was one. They formed a large percentage of London's nightly "Bed and Breakfasts." It is to such that I will throw out some suggestions as to where to stay in war-scarred London.

An hotel which still stands four-square in the heart of the Empire is the Langham. Solid in comfort and substantial in its structure, one can stay at the Langham to-day with the same confidence that one had in days of peace. For Harley Street, Oxford Street and Regent Street shopping, one is not dependent on road traffic, for one can use that most economical of all transport—one's feet.

It must have been some eight or ten years ago that, with an immaculate assistant manager, I crawled, crept and crouched amidst a forest of steel girders between floors at the Langham. For months the Langham had been undergoing a major operation. Few, if any, thought then how invaluable that inner casing of steel has proved to-day.

Perhaps if I was entirely on business bent, and had arrived at King's Cross or Euston, I should be tempted to make my headquarters at the Russell. Again, there is a feeling of solidity in such a structure. The Tube station is just round the corner. And Holborn is within easy walking distance. They are accustomed to business men at the Russell.

But if it is a case of combining business with a modicum of entertainment, the Savoy group, the May Fair, or the Piccadilly offer a width of selection, with facilities for dancing, dining, and even dreaming below stairs. There is, though, a large section of London's floating population who are on the lookout for the most moderate terms, combined with comfort, and for that reason they are content to pay a little more for their bus fare, and so pay a good deal less for their bed and breakfast accommodation.

South Kensington and Bayswater at once suggest themselves, and as Onslow Court, Stanhope Court and other Court hotels of the "North" Group hotels are open, one need look no further in the South Kensington area. Here is a group which even in war-time maintains, not without difficulty, their high standard of comfort at surprisingly moderate rates. All the "North" Group hotels are close to Underground and bus routes. All have A.R.P. facilities, and as Stanhope Court still advertises itself as "in a quiet garden square," one assumes that an afternoon's nap is possible, should the enemy be so thoughtless as to disturb one's night's rest.

There are bound to be people, though, who do not relish the thought of sleeping in London in these days, though there cannot be many as sensitive to noise as my correspondent of a few years ago who asked me for a quiet London hotel where I could guarantee that he would not be disturbed by the sound of a clock chiming.

I suggest that those who cannot attune themselves to the possibilities of noise should live outside the Metropolis, and by catching an early train, do the essentials in the morning and leave immediately after lunch to avoid the traffic rushes.

There are a number of hotels on London's green belt and beyond, which accommodate at moderate terms those who prefer a London-*cum*-country habitation.

In Surrey, the Red House at Leatherhead has always been a favourite amongst business people and those on leave from the Colonies. A Green Line bus passes the door. The electric train is within three minutes stroll. The hotel is comfortably residential: by this I mean there is room to move about in when the hotel is full.

Another hotel on a larger scale, and consequently with a higher tariff, is the Oaklands Park Hotel, near Weybridge. The nearest railway station is Walton-on-Thames, and the hotel bus meets the principal trains. The hotel occupies sixty acres of ground. The terms include use of the small sporting golf course in the grounds, the squash courts, badminton, tennis, and the Saturday night dance. The wonder to me is that business men have the strength of mind to go to London at all with so many attractions at one's doorstep.

Another hotel, and one of the few near London graded four star by the A.A., is Sundridge Park Hotel, near Bromley, and within twenty minutes of Cannon Street or Charing Cross. Here, again, an hotel bus conveys residents to and from the station, and it is surprising to find oneself so soon in the heart of the country. The hotel, a lovely Adams building, stands by itself surrounded by two golf courses. It has a large bombproof underground shelter, and the fact that the hotel is nearly always full, in spite of its proximity to the City, is testimony to the fact that safety lies not in distance, but in district.

*Mr. Ashley Courtenay is always pleased to advise "Sphere" readers of hotels, both large and small, known to him personally. Letters, accompanied by a 2½d. stamp for reply, should be addressed to him, c/o the Editor,* THE SPHERE, *32-34, St. Bride Street, London, E.C.4. Personal and telephone inquiries, however, cannot be accepted.*

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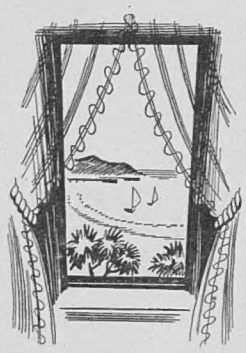

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# Come inside and read the January issue . . .

ONE could not wonder—at any rate, nobody did wonder—that Cheng should have been smitten by Rosie, since Rosie was a rare item in the London scene. One can go about London all day for a week and seldom see a living creature. Millions of animated phantoms pass along, but only when one of the Rosies flashes by does one realise the meaning of being alive. Rosie was unmistakably alive. She was alive in eyes, fingers, brow, shoulders, and shoes, and in the electric frisk of her frock and her hair. Even when standing still she seemed to be dancing, and in movement she was a stream of golden rain. No wonder, then, that when she answered his humble and reverent invitation by saying "What next?" and then adding—well, perhaps she might; she 'd see how she felt; it might be a bit of fun; no wonder he seemed to be knocked off the perch of life on which he had so precarious a footing. No wonder that he was apparently so bemused and distracted by those casual words that he went and bought three hundred paper roses to garnish his dwelling for her delight.

But Sway Lim was right. Cheng did not know his Rosie, or any other girl. And when the story, spread by Sway Lim, came to her that afternoon, she said, "What!" in such a tone that if Cheng had heard it, even his slow mind might have gathered that all was not well. Decorating the front of his house, in *her* honour, with *paper* roses!

Roses Round the Door
by Thomas Burke.

• • •

*The Knitting Section is a regular feature. Here are TWO of the new designs in the January issue.*

It was customary at that time for rulers to grant the headship of nunneries to women of noble birth; and it often happened that they were chosen from among certain ladies who would be better out of the way.

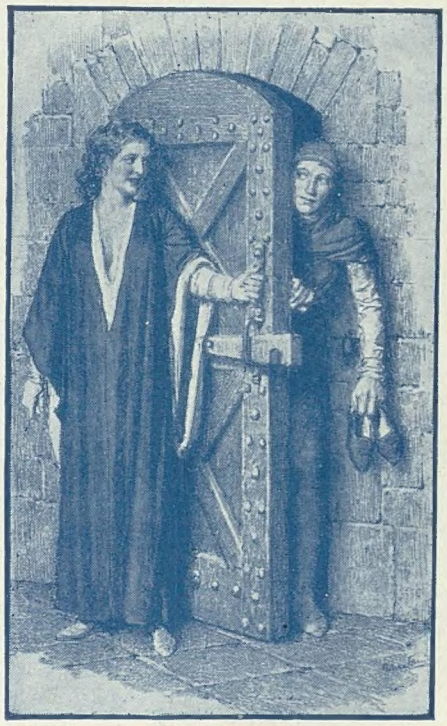
They were not sent there to expiate their past by a life of religious piety. On the contrary, they were given free rein, and but for the high morals of the rest of the inmates, these holy places would soon have earned for themselves quite a different name.

It was as the head of a convent that Eadburga was placed by Charlemagne.

Her exceptional learning was probably her only qualification, and it was certainly the only redeeming feature of such an appointment. But the teaching she could impart was unfavourably counterbalanced by the bad example she set in her mode of life.

Nature, like the leopard, does not change its spots; and the amorous disposition of this woman, born for a life of sensual ease and pleasure, soon found a way to open her cell to an ardent lover. This lover was a countryman of hers, and their meetings were so scandalously frequent that, despite the eminence of her position, Eadburga's conduct was reported to the Emperor.

"Queen Eadburga of Wessex"
Written and Illustrated by
F. Matania, R.I.

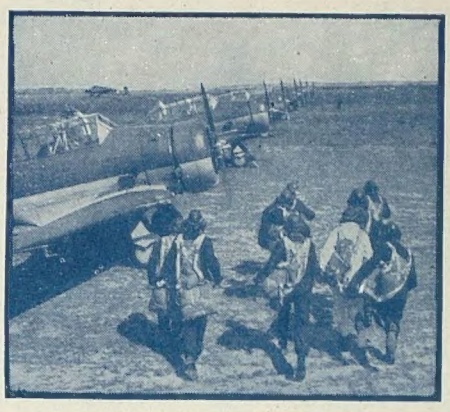


**Some of the contents of the JANUARY issue which will interest the practical woman**

"NEW YEAR OUTLOOK"—By Louisa Kay.
"CHECK UP ON YOUR LOOKS"—By Chrysis.
"CLOTHES WITH A FUTURE"—Fashions by Jean Burnup.
"WITH NO APOLOGIES"—By Winifred Lewis, whose writings are of interest to every homelover.
"LUNCH IN THE OFFICE"—Cookery Feature by Harriet Muir.
"PURCHASE TACTICS"—By Mary Young.
"HOUSE HOROSCOPE."
"ROOM FOR IMPROVEMENT."

**All the family will enjoy**

"THE GREEKS MEET"—By Arthur Mills.
"LOVE CAN BE WONDERFUL"—By Peter Cheyney.
"A MATTER OF PERSUASION"—By Stanley Jackson.
"TORPEDOED"—By G. Purssey Phillips.
"THE WINGED BOMB"—By C. Patrick Thompson.
"MIDDLE SEA"—By C. Fox Smith.
BOOKS:—Reviewed by Noel Thompson.



The squadron leader to whom I was talking in the mud was one of the flying instructors, some of them sergeants, others flying officers and flight lieutenants. They have an average of eight pupils each, four at a time. Promptly at 1.45 p.m. the pupils report at their respective flight on the edge of the great field. Here are the machines, and the tents where they receive their instructions, corrections, and sign the authorisation book, which is the official record of the work done in the air.

These are tremendous moments for the beginner. He is about to take up his first monoplane, and on his performance in the first few days may really depend whether or not he is made an officer, a sergeant, or just a civilian again. This is a stern business. If a man is backward in flying sense, there is no time nowadays to nurse him. He is going to be a fighter pilot—or nothing.

"Let me see now," says the squadron leader, "you, Smith, you've had your cockpit drill, haven't you? Yes, well, come on . . , we 'll take 7045."

Cockpit drill is the method by which the pupil is made spontaneously familiar with the various controls.

"I notice that you call them 'machines.'" I said. "You don't use any of the old R.F.C. slang?"

"No," said the squadron leader seriously. "We call them 'machines' or just 'aircraft.'"

But twenty minutes later he was referring, I noticed, to an obsolete type as a "ropy crate"; the Royal Air Force guards its jargon jealously.

Pupil and instructor crawled into the bright yellow "Harvard" and in a few seconds, with an ear-splitting roar unique in modern navigation, the American machine was shooting across the field and into the air. Five minutes later it was down again

*If you have a friend in the R.A.F., you will find "Training the Fighter Pilots" intensely interesting.*

• • •

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SATURDAY, JANUARY 18, 1941. Entered as Second-Class Matter at the New York (N.Y.) Post Office, 1903.